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Developing a Framework for the Implementation and Development of a Digital Customer interface for the Case Company X.

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2012 Leppävaara

Laurea University of Applied Sciences
Leppävaara

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Degree programme in Service Innovation and Design
Master's thesis
November, 2012

Laurea University of Applied Sciences **Abstract**
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The purpose of this thesis was to create a framework for a sales organization to enable them to streamline their operations. The goal was to achieve this streamlining with the help of a digital customer interface. The author used his current employer as the case company.

The theory was based on key tenets of the value co-creation. The author supported the notion that value is based on the subjective customer experience that is affected by different factors. In order for suppliers to create effective value propositions which customers can use for supporting their processes, the suppliers must integrate themselves to the customers' processes.

In the theory part, the author discussed also theory regarding Ecommerce and its different tenets. The purpose of this part was to present evidence supporting value creation in a context of more specific area of expertise. The author argued that in order for companies to be able to fully implement digital interfaces or self-service technologies (STTs) the more fundamental theory of value creation still applies.

The case company was a Finnish organization operating in the telecommunication market. In order to create a background for the findings, the author discussed the Finnish telecommunication market in general and the case company's situation in particular.

The empirical part was based on a qualitative study relying mainly on ethnographic methods. The author conducted a study with the help of members of the case organization and their customers. Both closest colleagues and members of the company management were investigated. As for the chosen customers, the focus was mainly on those familiar with the existing customer portal.

The results with a few exceptions supported the existing theory. In order for an organization to be able to provide customers with a valid digital interface, this interface must support the relevant customer processes. It must also be easy to use in order for portal to create positive customer experience. This is vital for value creation. For this to be achieved portal must also be connected to primary provider processes. It cannot exist in isolation. The best way to achieve this is to involve as many members of the supplier organization in the development work as possible.

Keywords value co-creation, customer experience, value-in-use, self-service technology, ethnography, learning organization, customization, ease-of-use

Laurea University of Applied Sciences **Tiivistelmä**
Leppävaara
Degree programme in Service Innovation and Design

Juho Hyvärinen

Digitaalisen Jakelukanavan Viitekehyksen Luominen Jalkauttamista ja Kehittämistä Varten Esimerkkiyritys X:ää Varten.

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Tämän opinnäytetyön tavoitteena oli luoda kehys myyntiorganisaatiolle, jotta organisaatio pystyisi tehostamaan toimintojaan. Tehostaminen oli tarkoitus saada aikaan digitaalisen asiakasrajapinnan avulla. Tutkimuksen kohteena oli tekijän nykyinen työnantaja.

Teoreettinen viitekehys perustui yhteiskehittelyn keskeisiin käsitteisiin. Tämän opinnäytetyön tekijä hyväksyi arvion, että arvonmuodostuksen perusteena on aina toimittajan kyvykkyys integroitua asiakkaan keskeisiin prosesseihin. Tämä mahdollistaa toimittajan kyvyn tarjota asiakkaille arvoehdotuksia joita asiakas voi käyttää prosessiensa tukena. Tästä lopputuloksena arvoa muodostuu kaikille osallisille. Arvo perustuu subjektiiviseen kokemukseen ja siihen vaikuttavat eri tekijät.

Teoreettisessa osuudessa tekijä myös käsitteli teoriaa elektronisesta kaupankäynnistä ja sen eri osa-alueista. Tämän osan tarkoituksena oli käydä läpi arvon muodostusta tietyn toimi-alueen sisällä. Tekijä esitti että digitaalisten asiakasrajapintojen ja itsepalveluteknologioiden käytössä pätevät samat arvonmuodostuksen keskeiset periaatteet.

Esimerkkiyrityksenä oli Suomalainen teleoperaattori. Tästä johtuen ja jotta tutkimukselle saataisiin konteksti, opinnäytetyön tekijä kävi myös läpi kyseisen teollisuuden alan tämän hetken tilanteen ja tulevaisuuden näkymät samoin kuin myös esimerkkiyrityksen tilanteen.

Empiirinen osuus perustui laadullisiin tutkimusmenetelmiin jotka perustuvat etnologiaan. Tekijä suoritti tutkimusta esimerkkiyrityksen työntekijöiden ja asiakkaiden kanssa. Sekä lähimmät kollegat että yrityksen johdon edustajat olivat tutkimuksen kohteina. Asiakkaista tutkimukseen sisällytettiin niitä joilla digitaalinen rajapinta oli jo tutkimuksen tekohetkellä aktiivisessa käytössä.

Tulokset muutamaa poikkeusta lukuun ottamatta tukivat olemassa olevaa teoriaa. Jotta organisaatio pystyy tarjoamaan hyödyllisen digitaalisen rajapinnan asiakkaille, tämän rajapinnan pitää pystyä tukemaan keskeisiä asiakasprosesseja. Sen pitää myös olla helppokäyttöinen, jotta positiivinen asiakaskokemus saadaan aikaiseksi. Tämä on tärkeää arvon muodostuksen takia. Samasta syystä rajapinnan pitää myös olla yhdistetty asiakkaan tärkeimpiin prosesseihin. Se ei voi toimia eristyksessä muusta kokonaisuudesta. Parhaiten tämä saavutetaan ottamalla kehitystyöhön mukaan mahdollisimman paljon organisaation työntekijöitä.

Avainsanat yhteiskehittely, asiakaskokemus, arvo käytössä, itsepalveluteknologia, etnografia, oppiva organisaatio, kustomointi, helppokäyttöisyys

Contents

1 Introduction

We live in an age where the pace of the technology is quickening exponentially and increasingly affecting every part of our daily lives. Firms to a larger extent utilize technology to offer both consumers and other organizations better services. Some of these are more traditional, and only the channel through which they are offered is new like the net banking. Some alternatively are completely new services (e.g. social media) made viable by rapid technological development. Technology is empowering people and organizations and offering a range of new possibilities for both customers and suppliers that were unimaginable only a few years ago.

Technology has an important role in NSD (new service development). According to Zeithaml, Bitner & Gremler (2009) Technology has several different functions. It can provide new ways of delivering existing services; it can create totally new services; it can enable all actors in the service process to be more efficient with services and it can extend global and reach of services.

When discussing the role of technology in service design in 2010 article "Moving Forward and Making a Difference: Research Priorities for the Science of Service" Michael Ghoul introduces us to a meaning of "freedom economy". This refers to a client and a supplier relationship being increasingly without boundaries and transactions being as free of friction as possible (Ostrom, Bitner, Brown, Burkhard, Goul, Smith-Daniels, Demirkan and Rabinovich 2010, 25-26).

More specifically Ostrom et al. (2010, 26) also describe Service Metaphor as "Organizations adopting this metaphor aspire to reduce application switching costs and lock-in. They want to efficiently integrate software, systems, and infrastructure with constantly changing set of strategic partners and suppliers, and they need new building blocks to forge customer relationships by leveraging a variety of channels. Advancing these building blocks remains an important technology research priority for the foreseeable future".

This same subject has also been touched upon by Bouwman, De Vos & Haaker (2008) who state that technology has helped make existing services more effective and at the same time increased overall quality of services and also helped to create totally new services. Increased utilization of technology however has its dangers, and this is one issue that the author will discuss and present solutions which can remedy or lessen the impact of some of these issues. It is the author's opinion that when utilizing technology overall situation must always be kept in mind. The role of technology should always be determined by possibilities it creates for better value creation.

The origins of this thesis can be found from author's current workplace. Author's professional experiences can be regarded as an inspiration and starting point for this thesis. This linked together with the existing theory and research done by the author strives to answer research questions regarded as critical in the context of both micro and macro level operating environment. How to handle workload increasing all the time when employee resources are not? How can technology be harnessed in best possible way to help sales personnel to achieve their ultimate goal which is to increase sales? How can this be achieved with demanding business-to-business customers currently with no contractual obligation to use the self-service technologies (SSTs), which as the name implies transfer some or all of the workload from supplier to customer?

This thesis centers on these questions and is done in the context of Finnish telecom business in general and one of Finnish operators and its wholesale sales team in particular. Wholesale sales team deals with other operators both domestic and international as well as system integrators. In the literature review, the theory of service marketing and Ecommerce are discussed. Based on this and research done with the help of colleagues and customers, a framework will be presented that strives to explain how self-service technology can best be utilized and harnessed. The ultimate goal with the framework is to create value for both the supplier and customers in previously mentioned context.

Author's research was based on methods associated with service design literature and ethnography. Methodology was qualitative by nature, and no quantitative methods were used. Goal was to determine customers' latent needs. In other words, to be able to find out what are their needs not what they say are their needs. Research methods were chosen with research goals in mind, but simultaneously maintaining awareness of restrictions created by the operating environment where research was conducted. In today's business environment challenge is to find research methods, which enable participation by relevant personnel from customers' side. At the same time these methods should take into account customers' limited resources. However, methods also have to be able to be used in a way which still enables the author to gather relevant data.

New service innovations are linked to global megatrends, which dictate where innovation is heading. There are currently nine recognizable megatrends. Which is interesting is that almost all of them can be linked into the emergence of latest technology (TEKES 2009, 11).

- The Cloud
- Web-Based Delivery
- mobile value delivery

- everything as a service
- experience as design
- sensing & monitoring
- collaborative contributions
- social networking and communications
- climate change and sustainability
- Globalization with local reference

These megatrends give the author of this thesis valuable information where new service development is currently heading. It also gives strong hints regarding this very thesis about functionalities linked to different megatrends that are currently missing from the digital customer interface, but which might be expected to be there by customers.

2 Theoretical framework

In the theoretical framework, author introduces theories and concepts that are central to this thesis and provides a foundation for which the research is based on and implemented. This section is structured as starting from main tenets of the service theory and progressing to specifics of Ecommerce in general and self service technologies in particular. Thesis is centered on the value co-creation, and all the theories introduced in the framework are linked to a supplier and a customer creating value together. For example, when introducing positive and negative sides of technology the author has tried to create a linkage to the basic tenets of co-creation. How can technology support established processes and what are the issues that have to be considered?

2.1 What is service

Based on data from 2006, services have in all the main world economies displaced products as a cornerstone of the economies (Zeithaml et al. 2009, 7-8; TEKES 2010). In United States services account for over 70% of GDP. In some countries like Hong Kong, it is more than 90%. There are various reasons for this development. For many product-oriented companies adding services to their portfolios has been the only way to increase revenue. Also, customer demand might have been behind increases in services offered. In traditional service industries, increased competition and deregulation has forced businesses to invest even more into new service development.

How to define services? They can be characterized very shortly as being activities, interactions and deeds or processes. This is an opinion shared by many scholars (Edvardsson, Gustafsson and Roos 2005; Solomon, Surprenant, Czepiel, & Gutman 1985; Lovelock, 1991;

Zeithaml and Bitner, 2003). Services can also be defined more broadly as “all economic activities whose output is not physical product or construction, is generally consumed at the time it is produced, and provides added value in forms (such as convenience, amusement, timeliness, comfort, or health) that are essentially intangible concerns of its first purchaser” Zeithaml et al. 2009, 4). This is the text book definition encountered by an every aspiring marketing student taking courses in the service marketing.

What are the characteristics included in services? IHIP characterization was first introduced by Zeithaml, Parasuraman, and Berry (1985) and defined the four key characteristics; inseparability, heterogeneity, intangibility, and perishability. Their research was based on a literature review. Zeithaml et al. (2009, 20-22) discuss simultaneous production and consumption in place of inseparability. However during this decade differing opinions have started to emerge. Edvardsson et al. (2005) for example, regard IHIP characterization focusing merely on service delivery. Their pertinent critique is that IHIP does not capture the value creation in services, and also it does not capture the interactive nature of services or basic service processes. The technological development has also rendered some of the four IHIP characteristics obsolete. How technology makes services more “product-like”, is discussed later on in the framework section.

Edvardsson et al. (2005) suggest that a service should be understood as a perspective: Perspective of a customer, a provider or both of them depending on situation and focusing on the value creation and value based on customer needs. According to them a service should also be understood in the context of an interaction, a process, relations and an experience. What’s more, as central to a service experience they regard the value co-creation with a customer. Concept of the value co-creation will be discussed in more detail later on in this thesis.

For the purposes of this thesis author has decided to expand the scope of definition from a service to the service marketing and marketing in general. The most cogent definition was suggested by Grönroos (2006) in his critique of American Marketing Association’s new definition for marketing. Grönroos made his own suggestion in the end.

“Marketing is a customer focus that permeates organizational functions and processes and is geared towards making promises through value proposition, enabling the fulfillment of individual expectations created by such promises and fulfilling such expectations through support to customers’ value-generating processes, thereby supporting value creation in the firm’s, as well as its customers’ and other stakeholders’ processes” (Grönroos 2006, 407).

This definition focuses on the value creation through value propositions based on intrinsic knowledge of customer processes and also takes into account the subjective nature of value. These are the central tenets of this thesis and form the basis for more detailed theory and research centered around self service technology.

2.2 Interaction, experiences and value creation in service

Vargo and Lusch (2004, 2-3) originally introduced the definition of the service-dominant logic in 2004. It was defined as a process where people engage in exchanges in order to gain skills and competencies. Resources are divided into operant and operand ones. Operand refers to traditional and tangible things while operant means intangibles such as core competencies and processes.

The fundamental tenet in the service-dominant logic is that companies do not produce value as such. They can only offer value propositions, which are then turned into value by customers. Value, in turn, is perceived and determined by a customer and created through use. Goods as such should be only regarded as "transmitters of operant resources" (Vargo & Lusch 2004, 7).

However, the service-dominant logic is not universally accepted concept. So-called Nordic School does not regard goods merely as transmitters of services but as a resource. Representatives of the Nordic School agree with most of the aspects of the service-dominant logic but there some notable differences in perspectives. The Nordic School argues that by combining various resources in a process is *a service* which customers consume (Grönroos 2006, 330). This processual nature of a service is the only clearly defining character that distinguishes a service from a good. In the traditional marketing of goods, production and consumption are separated and the "black box" of consumption seldom if ever penetrated by traditional goods marketing methods (Grönroos 2006, 319).

Another issue of much importance for the Nordic School is the concept of interaction. Interactions can be defined as situations where two or more parties are involved and influencing each others' processes (Grönroos 2006, 289). It can be argued that parties are with varying degrees integrated to other parties' processes influencing and learning thus creating value at the same time. This is something that shall be discussed later on this thesis and analyzed from the perspective of Ojasalo (2010) and Grönroos and Ravald (2009).

Before going into more detail about the electronic commerce, it is important to understand central tenets of delivering services. Key in successful service business is to be able to create value to customers whether they are consumers or organizations. The theory about value

creation has evolved over times and come a long way since time of Adam Smith in 18th century. Smith introduced terms of value-in-exchange and value-in-use (1776/2009) which loosely refer to value being embedded in objects and value being created during use. This theory has substantially evolved since services have started to a take leading role in marketing from traditional goods based theory.

Ojasalo (2010, 4-5) discusses three different approaches to the value creation. These are traditional value-in-exchange model, value by co-production and value by co-creation. These models have previously been discussed by other authors as well (Vargo & Lusch 2004; Prahalad & Ramaswamy 2004; Zeithaml et al. 2006; Payne, Storbacka and Frow, 2008). Value-in-exchange refers to the traditional model with the value being embedded in goods and "increased" by different actors in the value chain all the way until end customer purchase event. The main difference between the co-production and the co-creation is the level of customer participation. In the co-production value creation takes place more tightly controlled by provider while, in the value co-creation, the role of a provider is solely to offer value propositions. Value is created during use and determined solely by the customer.

Perhaps the most important finding in Ojasalo's article from this thesis' perspective is the difference between co-production and co-creation when transforming service processes. Co-production offers economical benefits when swapping supplier labor to customer labor and thus increases self-service. Benefits are economical and caused by savings in decreased labor costs and reduced prices from customers' perspective. However, the most central feature of the co-production is that, it takes place in a tightly-controlled situation where a provider is responsible for creating a context inside which the co-production takes place (e.g. Fuchs 1968; Lovelock and Young 1979; Bateson 1985; Mills and Morris 1986; Fitzsimmons 1985 according to Ojasalo, 2010).

In the co-creation focus is on supporting customers' value-creation processes. A supplier's role is to get acquainted with relevant processes and find correct ways to support them, in other words to offer value propositions. Customers must also contribute to the value creation process by learning better ways to integrate their own processes to those of their suppliers.

One important aspect in the co-creation is the role of customer experience. According to several authors, (Ojasalo 2010; Prahalad and Ramaswamy 2004) value in the end is embedded in the customer experience and is the most important determinant of how much customer perceives receiving value from a service. The customer experience shall be discussed later.

Based on the literature discussed, the value co-creation where customers and suppliers interact correctly leads to a learning process where both sides gain new knowledge of their

own capabilities. They also learn from each other's capabilities. The most significant possibility offered to a supplier is the ability to learn about customers' latent needs that they are unaware of. This is made possible by co-creation processes, which inevitably lead to a closer relationship and more interaction between different parties in a relationship.

In order to better comprehend why it is important to develop and improve digital interfaces with customers, it is crucial to understand basics of the value creation process from both a customer and a provider point of view. To begin with it is pivotal to comprehend fundamental tenet in the value creation; as stated before organizations cannot according to Vargo et al. (2008, 147-148) provide value as such to customers. They can only offer value propositions, which customers then turn into value through their own value creation processes. Value is co-created through mutually beneficiary relationship between different stakeholders in this process.

Grönroos and Ravald (2009, 4-5) discuss the service-dominant logic from both customers' and providers' point of view. Key from customers' perspective is to integrate resources provided by different suppliers, and simultaneously apply their own unique skills in to the process in order to create value. As mentioned before, this perspective is the one promoted by the Nordic School.

From providers' point of view, the focus should be on an interactive relationship with a customer during their use of goods and services. This enables a supplier to create value with customers and for customers (Grönroos and Ravald 2009, 5). This reveals important point, which will be discussed in more detail later in this thesis. It is the importance of the interaction between a provider and a customer, which will enable providers to offer value propositions to customers by better understanding customers' value-creation processes.

In the application of technology in providing services, this can be regarded as especially crucial definition. If one of the defining features of an electronic service is rapid development which is done in collusion with service users (Riedl, Leimester & Krcmar 13, 2009) then it should inevitably lead to closer association between a customer and a provider. This is especially true in the business-to-business environment where payments to both directions are more common (Grönroos & Ravald 2009, 7).

Vargo et al. (2008) statement that firms participate in the value creation through value propositions and then customers continue this process through use raises questions (Grönroos & Ravald 2009, 11-13). If this is the case, then suppliers cannot be regarded as value co-creators because in a scenario like this value is determined by a customer and created by a customer in customer-centric processes. How can a supplier role be defined more specifically

in the value co-creation? How suppliers can participate in a way that emphasizes their role as co-creators of value?

Grönroos and Ravald (2009 12-13) emphasize need for suppliers to integrate themselves into customers' processes. In this way, suppliers became value facilitators who through direct or indirect interactions help customers to create value. Their definition changes firms' role from mere supplier of value propositions into an active participator in the value creating process and thus into a co-creator. This characterization can be seen as very important in the context of this thesis. This is also supported by Payne et al. (2008, 93) who emphasize the need to "manage across and within customer and supplier value creating processes". They also stress the importance and cumulative effect on the co-creative value generated by a succession of encounters between a customer and a supplier. Finally, Payne et al. (2008) also argue that value propositions should always be adapted to the context of common history between a customer and a supplier. Customers' ability and willingness to learn differs between different segments and even individual customers.

Role of interactions in value creation process

When developing new services companies routinely interact with their customer base. This interaction can be preplanned if processes for development are properly thought of, or it can be based on customer complaints and feedback which leads to a reactive development work. Either way the nature of services is such that this presents an example of an application of the service-dominant logic by both providers and customers. However, it must be understood that the interaction as such is not automation between a customer and a supplier, but based on active participation of both entities in the process. Also, interaction does not as such automatically lead to the co-creation, but merely offers a platform for creating value (Grönroos 2011, 290).

Grönroos and Ravald (2009, 14) define interaction as when "two or more parties are in contact with each other for commercial reason, and in these contacts they have opportunities to influence one another's processes". In the ideal interactive situation, both customers and suppliers have active effect on each other's process and the value is created for both parties. This value can manifest itself in different ways. For example, it can lead to savings in terms of reduced need of employees or it can improve the customer loyalty and retention through better ability to serve customers, or it can be measured as a pure profit.

Payne et al. (2008) argue that it is a supplier's responsibility to actively encourage encounters between a customer and a supplier. The goal of these encounters is to help facilitate the

customer understanding how to better utilize their resources. The degree of a satisfaction and a customer involvement define the nature of the relationship between the parties.

It is important to understand that an interactive process, which creates value for both parties, also offers valuable learning experiences for a supplier. These experiences can then be put into use with other customers effectively enhancing suppliers' own value-creating processes and thus making customers co-creators also in this respect (Grönroos & Ravald 2009, 14-20).

The author has discussed the concept of value co-creation from the perspective of service dominant logic of Vargo & Lusch and also the Nordic School. Both schools of thoughts have much in common but as mentioned before there are some differences. It can be argued that the Nordic School has more advanced concept of the value co-creation, which has been refined from the service-dominant logic and goes much more into detail. The focus on integrated processes and interactions and suppliers' role as facilitators is in the opinion of the author an example of this.

Understanding the co-creation as a process and roles that different stakeholders have in it is vital for results of this thesis. The author strives to create a framework which should enable better and more efficient value co-creation with the help of technology and digital interfaces. In order to develop the interface and the processes centered around it means that the author must first understand in general the processes customers and case company as a supplier have together and through findings create the framework which will continue to support these processes. This framework must take into consideration the individual needs of different customers and create better opportunities for the case company – customer integration.

Value networks

Stabell and Fjeldstadt (1998) express critique towards the traditional value chain and present two alternating models value shop and value networks. The value network generally was seen as the best option for organizations relying on the extensive use of technology, and basing their operational model in creating networks between their customers. Also in TEKES (2010, 10) report value networks are mentioned as prerequisite for modern companies in staying ahead of the competition. They are characterized as being complex, multidimensional and constantly changing. Ojasalo (2010) also emphasizes the importance of value networks as part of the organizational strategy and the co-creation.

Service experience

Meyer and Schwager (2007, 118-119) define the customer experience as “the internal and subjective response customers have to any direct or indirect contact with a company”. For them, the essence of the consumer experience is a successful value proposition offered by brand and understandable in every possible feature available for a customer. Quality is not regarded as important. In B2B, however, they make a distinction to a consumer experience and central to it is functioning. B2B providers must understand how their partners provide value to end customers, for it is the only way to be able to offer effective value propositions to their customers.

Edvardsson et al. (2005, 111) use the following definition by unnamed expert when discussing the service experience “Essence of service is the experience created for the customer”. They also suggest that service organizations should have two roles; to solve customers’ problems and to provide unique experiences. One can argue that first point relates to age old definition of marketing where emphasis is on providing answers to customers’ problems. There are clear connection points between both Meyer & Schwager and Edvardsson et al. articles. While Meyer and Schwager differentiate between a consumer and B2B experiences Edvardsson et al. merge them together. This same issue is also touched by Ojasalo (2010) more recently. She links value creation to customer experiences and perceptions which are regarded as essential in the value creation process. Ojasalo also argues that in the business-to-business value co-creation is even more important than in the business-to-consumer. She qualifies this opinion by introducing a new term business-with-business which according to her better describes interactional relationship between supplier and customer organization.

Service experience as a definition was introduced in Vargo and Lusch (2004) article regarding the Service-Dominant Logic. Before that the field of marketing had concentrated in goods-dominated perspective and definitions such as McCarthy’s marketing mix and 4 P’s (Kotler 15-17, 2003) were dominant. The marketing mix refers to product, price, place and promotion which should all be designed in a way that corresponds to customer needs. The Goods-Dominant Logic emphasized value-in-exchange i.e. value being embedded in a manufactured product.

However, for example, Grönroos (2006, 319-320) argues that the marketing mix lacks the interactivity so that a supplier does not receive any information what consumers do with their goods and consumers on the other hand only perceive the good supported by marketing message devised by full-time marketers. In other words, traditional marketing is structured to support exchange processes where consumption phase is outside the scope.

Although being regarded as one of the central pieces of modern service centered marketing thought, it is surprising as pointed out by individual authors (Helkkula 2010; Sandström, Edvardsson, Kristensson and Magnusson 2008) how many gaps in the research literature still exist regarding the service experience. Articles that do exist do not contain much empirical evidence, but are more conceptual texts, which raises questions about how well the service experience is actually understood and consequently should point future researchers in a certain direction.

The service experience is linked to the value-in-use and to one of its central features of customer determining the value. According to Prahalad and Ramaswamy (2004, 137) "Value is now centered in the experiences of consumers". Sandström et al. (2008, 120-122) further refine this argument by asserting that the value-in-use is created by the customer based on customers' cognitive evaluation of both functional and emotional value propositions. These will be discussed later.

However, due to being relatively new area of research, there are still significant gaps that can be found in the literature. Helkkula has completed an extensive literature review regarding the service experience and she discusses these gaps in the theoretical foundation (Helkkula, 2010).

These gaps are defined as follows; firstly lack of a common definition of service experience, secondly lack of empirical studies defining service experience, thirdly studies that exist focus mainly on experiences from customers' side and other stakeholders have been omitted from recent research. Last point refers to service experience and value perception and the fact that they have not been sufficiently characterized and relation between them has not been adequately defined (Helkkula 2010 24-25).

Based on the literature review Helkkula (2010, 84) gives following characterization to the service experience;

> [Service experiences] are internal, subjective, event and context specific. Even if the service experiences are individual, they are at the same time social as people do not live in isolation. The connection with the service can be direct or indirect. The indirect connection relates to connections, where the individual has not been in contact with the service provider or used the service (c.f. Meyer and Schwager, 2007). Accordingly, service experience can be a practical or imaginary encounter, which does not need to have an external replica. An individual can be any relevant actor in the service phenomenon, such as a customer or service provider representative.

Based on this characterization implications to the value-creation process can also be discussed. Helkkula (2010, 86) makes an intriguing point when stating that value as a definition has not been comprehensively characterized and also offers characterization of relationship between the service experience and the value creation as “a complex phenomenon in individuals’ lifeworld”.

Helkkula’s (2010, 85-87) contribution to the value-creation process in the context of service experience is her definition that the value is always perceived individually although in the context of social networks and can be based on real or imaginary experiences happening now, in the future or the past. She also emphasizes the intangible nature of experience and difficulty of researching it.

The service experience and its characterization have implications regarding this thesis. The value creation process is linked implicitly to intangible experiences that have a reciprocal relationship with an individual’s lifeworld. The lifeworld, in turn, is affected by several factors. This gives an idea of some of the aspects that have to be considered when developing digital interfaces for B2B environment.

Value

How to define value? As stated before, Helkkula noted the lack of a comprehensive definition of the value. This is also agreed on by others. Reasons offered are value being somewhat abstract concept (Sánchez-Fernández and Iniesta-Bonillo 2007). Zeithaml (1988, 14) defined value as “the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given”. This was also mentioned by Sánchez-Fernández and Iniesta-Bonillo (2007, 428) as one of the examples how to define value. Holbrook (1996, 138), in turn, characterizes the value as “interactive relativistic preference experience. Holbrook also in his longer characterization relates value to born out of consumption i.e. value-in-use.

Sánchez-Fernández and Iniesta-Bonillo divide the value characterizations in uni-dimensional and multi-dimensional ones. In uni-dimensional definitions one variable fundamentally defines the value, while in multi-dimensional characterizations there are numerous variables that effect customers’ perception. Based on this classification, Zeithaml (1988) can be regarded as uni-dimensional while Holbrook (1996) belongs firmly in the multi-dimensional school.

Sánchez-Fernández’s and Iniesta-Bonillo’s (2007, 444) conclusions regarding the value characterization emphasize the importance of the interaction between different parties in the value creation process. Their view also takes into account value’s dependency on several

other factors, and makes it clear that value as such is highly subjective and indefinable concept.

In this thesis, the value-in-use is accepted as the right characterization of central tenets of concept of the value. The value-in-use refers to the idea that customers create value to themselves only when using goods or services. It has replaced the value-in-exchange which refers to value being "stored" in goods or services that are sold to customers. According to the value-in-use school both goods and services represent value-supporting resources and processes out of which the true value emerges upon customer integrating them into consumption or usage processes (Grönroos & Ravald 2009, Ojasalo 2010).

Sandström et al. (2008, 120) characterize the value-in-use in connection with the service experience as always being based on customers' independent judgment and depending on the sum of functional and emotional experience outcomes i.e. service experience. As is the case with the value-in exchange, the value-in-use cannot be predetermined by the supplier, but is defined during consumption by a user. This furthermore amplifies the concept of the value itself being an individual perception that can only be suggested through value propositions, which are then turned into value by customers. Key for providers is to acquaint themselves with end-customer processes in order to be able to make better value propositions. Below is a framework suggested by Sandström et al. (2008, 121) which

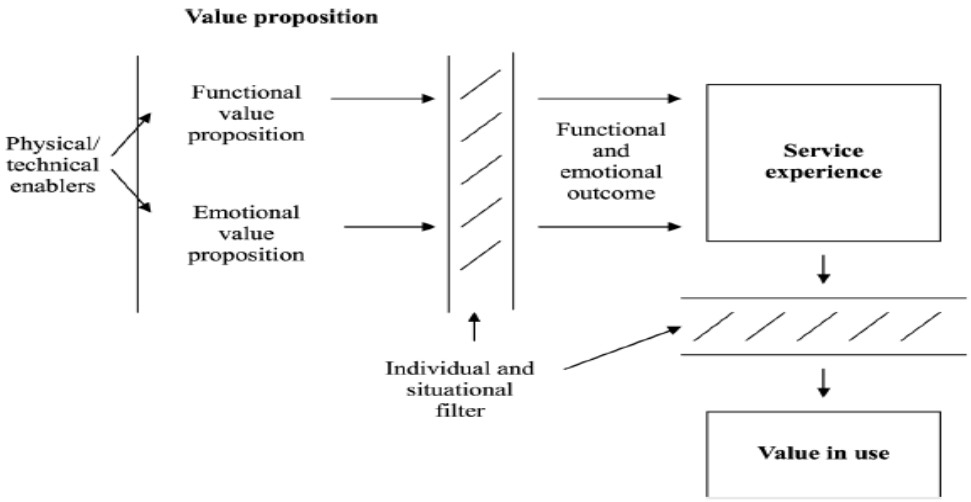


Figure 1: Framework linking service experience to value-in-use (Sandström et al. 2008, 121)

describes their framework about how the value-in-use is created by end user's cognitive assessment of service experience. This includes both functional and emotional dimensions. Physical/technical enablers are concrete objects, which make it possible to create a service, like base stations in the mobile networks. Functional value propositions can be described as "what is possible to do with the service" and they make actual usage of service possible. Emotional value propositions refer to non-physical and can include, for example, mental

images and brand value. The individual and situational filter is everything that affects the user during service experience. This can mean, for example, user's skills, mental state and surroundings.

Sandström et al. (2008) argument is that the value is not determined solely by "hedonistic" factors, but also functional factors have a significant part to play in the value-in-use determination. The service experience consists of functional and emotional dimensions of service. Value in turn, is determined by individual evaluation of the service experience.

One novel theory regarding the value creation was introduced by Joseph Schumpeter during 30's. It has some significance regarding this thesis since it provides opinion how value can be created through innovation. Schumpeterian theory is centered on a new innovation bringing more possibilities regarding new products and services and re-arrangements in existing industrial structures. This brings economic development, hence creating value (Amit & Zott 2001). In some ways, this is not so far off from Zeithaml et al. (2009) who argue that one of the most important roles technology can offer is to be able to offer new ways to deliver services and ability to create new services all together.

The sole purpose of this thesis is the value creation for the case organization. This means that it is of utmost importance to discuss the dynamics of the value-in-use and factors that contribute into it. Digital customer interfaces can be regarded as being part of both functional and emotional value propositions and, in fact, in some respect also physical/technical enablers. A properly working interface, which differentiates by technological reputation, leads to an improved brand image for the interface in particular and the organization behind it in general. This can be regarded as fulfilling both functional and emotional dimensions of value propositions. Same is true for enablers which it can be argued are as important when functioning as intended as to say base stations with mobile services.

2.3 Service quality – the customer gap

Zeithaml et al. (2009) created the concept of Gaps Model of Service Quality. According to this model the service quality is determined by the gap between services customer expects and services customer is perceived to have received. This is called The Customer Gap. The previous chapter discussed service experience and its individual perception as defined by Helkkula. These same factors also determine the nature of Service quality. It is also defined by perception created by many different factors.

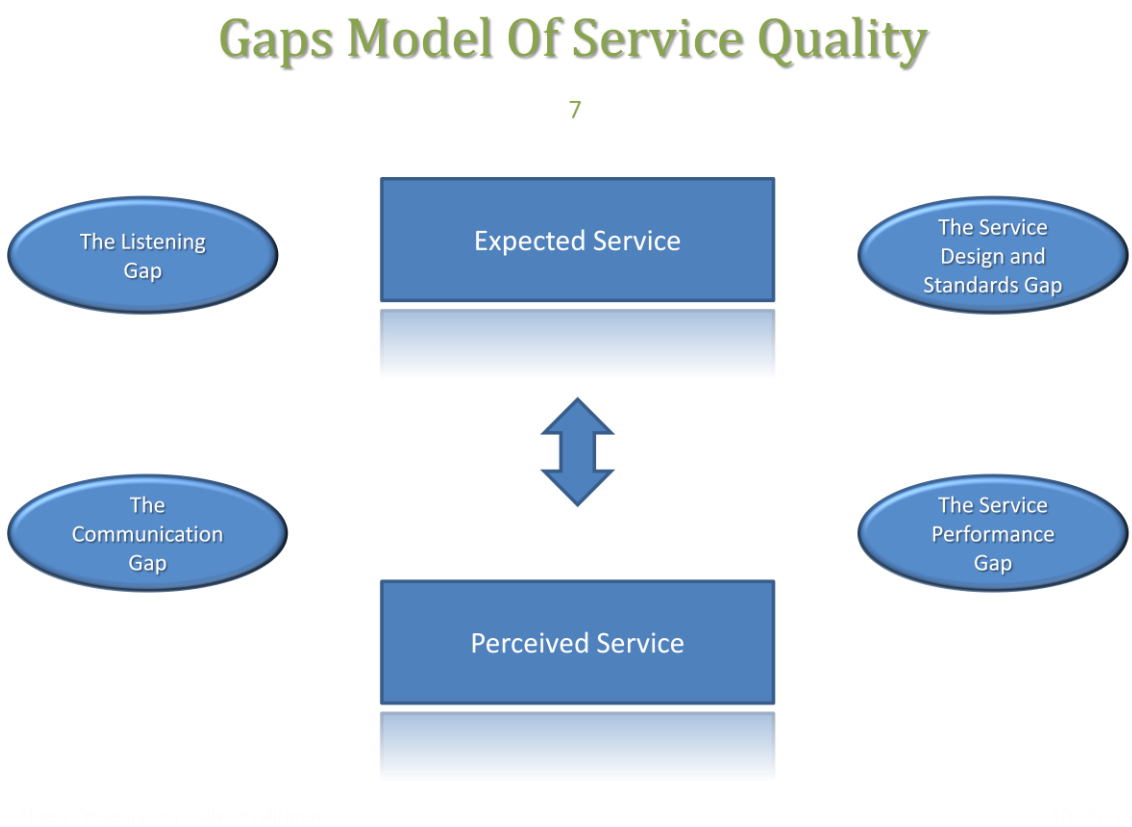


Figure 2: Gaps model of service quality (Zeithaml et al. 2009)

Key to closing The Customer Gap is to close four other gaps. These four so-called provider gaps are The Listening Gap, The Service Design and Standards Gap, The Service Performance Gap and The Communication Gap. Next these concepts are shortly introduced.

The Listening Gap refers to providers' knowledge of customer expectations regarding their service offering or the lack of it. Usually reasons for this can be lead from the lack of the marketing communications, the lack of the internal communication between different levels of organization, concentrating more on transactions than customer retention and the lack of service recovery processes (Zeithaml et al. 2009, 34-36). Although not specifically mentioned by them the fundamental idea in the first gap and how to close it is very similar to basic tenets of the co-creation. It is difficult to create value if customers are an unknown quantity to company personnel.

Having an accurate understanding of customers' perception of services is a beginning but not enough. The second gap called the Service Design and Standards Gap describes the gap between those accurate perceptions and organizations' service design standards and processes. Possible problems relate firstly to poorly managed, unsystematic design processes resulting in services that are vague and undefined. Secondly problems relate to lack of

customer centricity. Processes and services are designed without clear touchpoints to customer needs and also without a clear understanding how to involve customers in them. Thirdly they relate to problems with physical evidence and servicescape, and failure to develop them in line with customer expectations (Zeithaml et al. 2009, 36-38).

The third gap is about the gap in the actual performance of a supplier and a customer when compared to customer driven standards developed with the closure of the second gap. The factors affecting the Service Performance gap are firstly the employees who do not understand their roles correctly, have not been properly trained or are lacking the sufficient motivation. Second problem relates to customers who fail to understand their roles in service encounters. Third problem is the use of intermediaries like franchises or agents and how to ensure that their standards reciprocate those of supplier's. The final problem is about the supply and demand and how to ensure adequate workforce during times of high and low demand (Zeithaml et al. 2009, 38-39).

The final gap is called The Communication Gap and refers to the difference between service delivery and organizational marketing message regarding those services. The basic tenet is that, the external marketing together with the interactive marketing and the horizontal communication inside the company must be planned and executed in such a way that it is in line with the service offering. Biggest problems faced here are overpromises and not being able to manage customer expectations (Zeithaml et al. 2009, 42-43).

The Gaps Model of Service Quality provides an example of a framework how value is perceived. It also presents a clear process with closure of provider gaps from 1-4 being key in achieving better quality service and thus more value. With self-service technologies, it can be argued that when implementing digital interfaces it is important to communicate expectations of a customer role, service possibilities and restrictions, as well as processes facilitating the use of self-service technologies for all stakeholders. This way it can be ensured that a customer and a supplier are in mutual understanding of opportunities and limitations. This also ensures reduced customer gap leading to a more positive value perception.

2.4 Technology and services

With the advent of the digital age and ever-increasing implementation of new technology for even most basic functions in society, it is clear that the service industry has also been touched by this revolution that is changing the society in ever-increasing pace. Technology's effect on services is two-fold. It helps to deliver existing services with new ways, while also with the help of technology totally new services can be created. With technology importance

of time and place will diminish and local service offerings can be turned global with almost the same cost (Zeithaml et al. 2009; Lawson-Body and O'Keefe 2006).

Technology also changes how services have traditionally been perceived. As discussed earlier traditional characteristics of service were inseparability, heterogeneity, intangibility, and perishability. Although the contemporary service literature regards these to be more closely related to the service delivery, they can still be used at least when discussing technology's effect in the transformation of services. Technology has brought another dimension to the service delivery. With the advent of the digital age and technology's ever more pervasive role in all aspects of the service industry, it can be argued that the basic nature of services has changed forever. They can now be made storable, repeatable, standardized and human factor can be altogether removed from the service delivery (Edvardsson et al., 2005; Snellman and Vihtkari, 2003; Sandström et al. 2008, 112-113).

Definition of ecommerce/self-service technology

In the beginning author feels it is important to define and thus differentiate Ecommerce and self-service technology from the more "traditional" services. Riedl, Leimester & Krcmar (2009, 9) define Ecommerce as "business activity of value exchange that is accessible through an electronic interface." Other characterizations for Ecommerce include "provision of service over electronic networks" by Rust and Kannan (2003) and "software system designed to support interoperable machine-to-machine interaction over a network" by Haas and Brown (2004). Williams, Chatterjee and Rossi (2008) define digital services as something "which are obtained and/or arranged through a digital transaction (information, software modules, or consumer goods) over Internet Protocol (IP").

From the perspective of this thesis, these definitions are not very valid. They focus more on the delivery through an electronic interface, and exclude how value is created with the help of technology. Also, the characterization by Riedl et al. (2009) focuses on the value-in-exchange and is not taking into consideration value being created through use as a result of the co-creation between different stakeholders knowledgeable of each other's processes.

Riedl et al. (10-13, 2009) also classify five defining characteristics of Ecommerce. These are (1) the cost structure of services, (2) the high degree of outsourcing, (3) the rapid development of new services, (4) the availability of transparent service feedback, and (5) the continuous improvement of services. Some of these are directly linked to reasons why companies implement self-service technologies with savings they can produce as top of the list. Their article although not specifically mentioned is clearly focused on a supplier

perspective. Although all five characters have at least indirect effect on the customer the direct effects on all are clearly linked to supplier processes.

Why companies implement self-service technologies?

Bitner et al. (2002, 98) discuss three main reasons why companies are keen to introduce self-service technologies into their operational models. These are to reduce costs, increase customer satisfaction and loyalty and finally to reach new customer segments.
Currant, Meuter and Suprenant (2003, 210-211) agree with this and together with other authors such as Berry (1999), Alpar (1992), Dabholkar (1996), Kelley (1994), Kaufman and Lally (1994) and Meuter and Bitner (1998) add to the list speed, delivery, precision, increases in competitiveness and market share and finally differentiation through technological reputation. What is more, they also discuss two central tenets of the service delivery heterogeneity and perishability. When reading Currant, Meyer and Suprenant it is worth remembering, however, that their research was focused in consumers.

According to Currant et al. (2003) SSTs contribute to business relationship by an increased level of control they bring to service transactions. This is achieved by reducing effect "human" factors have on the service delivery. With the help of technology, importance of time and place will weaken meaning that the service delivery is not so dependable from human factors such as problems brought by work shifts or sick leaves. This point was also made by Sandström et al. (2008), who quoting several different authors stated that technology will turn services into more "traditional" product like entities as understood by marketing literature. Also, the effect personalities of individuals working for service providers will lose at least some amount its meaning in a wholly or partly automated delivery chain. These ideas are very similar to ones discussed earlier by Goul (Ostrom et al. 2010, 25-26). Freedom Society and Service Metaphor are intrinsically linked to text by Currant et al. (2003).

Perhaps one of the most significant findings by Lawson-Body and O'Keefe is that the use of web tools will lead to increased switching costs and thus increased loyalty. "Firms not pursuing cost-based competitive advantages through the Internet will be left behind" (Lawson-Body and O'Keefe 2006, 19). What this means is that initial investments made to enable the seamless interaction between different ERP and CRM systems between customers and suppliers, will be paid back with increased customer retention and benefits it brings to both parties.

Customer Relationship Management (CRM) systems are designed to "store and process information about the customer so that dialogue may develop with relevant customer" (Zahay & Handfield 2004, 628). Based on literature (Peltier, Schibrowsky, Schultz, & Zahay 2006;

Zahay, Peltier, Griggin & Schultz 2004) adoption of CRM technology offers a competitive advantage i.e. capability to offer value through the co-creation by increasing understanding of customers processes and their changing needs. CRM fits into a wider concept of customer information system (CIS) which is based on organization's learning capability with the help of easy access to customer information throughout the whole organization (Zahay & Griffin 2003).

Technological readiness

Technological readiness (TR) refers to people's willingness to adopt new technologies to be used both at private and professional life (Parasuraman 2000). Technological readiness should always be taken into consideration when organizations introduce new SSTs. Lin and Shieh (2006, 508) advocate aggressive stance, where organizations take a proactive position to technological readiness, and through different marketing activities promote the positive attributes such as optimism and innovativeness and simultaneously try to minimize the effect of negative attributes such as discomfort and insecurity.

Lin and Shieh (2006) emphasize the need for education and assistance when implementing SSTs. It is seen as important to have user interfaces designed in a way which makes technology easy to use and adopt. Successful implementation of a self-service technology can lead to a positive cycle. This enforces users' willingness to continue to use technology in interactions with suppliers with stronger belief that it can bring obvious benefits.

In short providers should concentrate to improve both physical and emotional enablers in order to overcome end user inhibitions and enhance their technological readiness. Designing innovative SSTs, which are easy to use, impress by their design, can be personalized and offer secure way to conduct transactions are the best way to increase the number of users committed to interacting with the organization through electronic interfaces. However, customers should always have other interfaces and service delivery channels available as well. Lin and Shieh (2006) warn against making customers adapt self-service technologies too forcibly.

What self-service technologies should try to achieve from customers' side?

Different authors have discussed different reasons for customer willingness to implement self-service technologies. Bitner, Ostrom and Meuter (2002, 98-100) present three main goals from customers' perspective relating to SSTs and how they can improve service encounters. These are customer service, enabling transactions and education. It has to be remembered that these three areas must be looked into from customers' side. They can provide valuable

insight regarding goals that SST developers must look into and strive to achieve if they wish to implement successful self-service technologies. Goals for supplier organization and that of customer's are not separate but interconnected and must be treated as such.

According to Ostrom, et al. (2010, 25-26) customers more and more expect services to "come into them" not other way around. Key is to use technology to provide a frictionless service that is not bound by time or place. This way customer needs and wants can be fulfilled and stakeholders will be in a situation where interaction between parties functions in a way that supports the co-creation. This enables value to be created for all participants. There seems to be research data backing up this hypothesis. Based on research with critical incident technique Meuter, Ostrom, Roundtree and Bitner (2000, 55) argue that the single biggest factor why customers revert to use of SSTs was savings in time used.

On a more practical level Bitner et al. (2002, 98-100) offer several reasons why customers use SSTs. According to them customers use self-service technologies when it helps them with their problems, when they offer more value than interpersonal relationship with saving time, money or both and when they function properly. Dabholkar (1994, 1996) and Meuter et al. 2000) add to this list fun of using new services and also allowing customers purposefully to avoid contact with providers' personnel. How is the personalization defined by literature?

Personalization and customization

Personalization consortium according to Vesanen (2007) defines it as "personalization is the use of technology and customer information to tailor electronic commerce interactions between a business and each individual customer. Using information either previously obtained or provided in real-time about the customer, the exchange between the parties is altered to fit that customer's stated needs as well as needs perceived by the business based on the available customer information". This view is technology-based, and Vesanen introduces several others in his literature review. Vesanen also in a figure below discusses possible costs and benefits personalization offers to customer. He argues that in personalization value is created by a margin between costs and benefits. This should always be carefully considered when an organization starts discussing issues relating to personalization and customization.

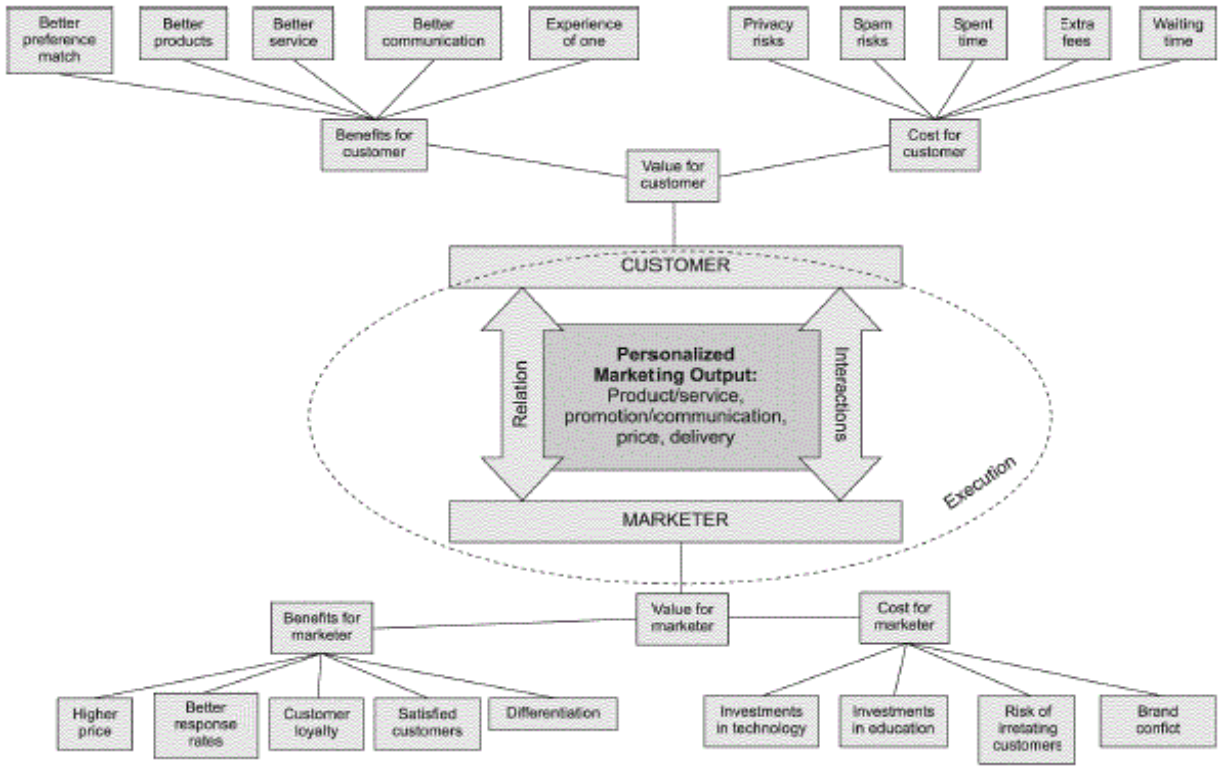


Figure 3: Personalization framework as seen by Vesanen (2007, 414)

How inter-organizational relationships are crucial when implementing self-service technologies.

Lawson-Body and O'Keefe discuss (2006) what is required from the relationship between organizations conducting B2B commerce and how electronic commerce can affect Inter-organizational relationships. This same subject is also touched upon by Schultze and Orlikowski (2004).

Grönroos (1994), Son, Narasimhan, & Riggins (2000) and Lawson-Body and O'Keefe (2006) argue that from the inter-organizational cooperation stems loyalty which in turn is crucial for inter-organizational interdependence. Trust between organizations is also necessary for mutually beneficial relationship to develop. In this Lawson-Body and O'Keefe agree with findings of Grönroos and Ravald (2009) regarding value creation through interaction.

These findings lead Lawson-Body and O'Keefe (2006, 17) to emphasize the need to use the web as more than just a communication tool. According to them use of web tools promotes relationship between cooperation and loyalty by making information more readily available, and thus forcing relationships to develop based on loyalty rather than history.

Potential problems in using SSTs.

Meuter et al. (2000) and later Bitner, Ostrom and Meuter (2002, 98-100) discuss this from customers' point of view and list three general issues that might affect implementation of self-service systems. The biggest problem according to their findings was processual. SSTs work well, but problems nevertheless occur at some point of service delivery chain.

Two other problems relate to poor design and failure for customers to use SSTs as they were meant to be exploited. These two problems are something that can be remedied with the help of appropriate design and education and will be looked into in greater detail later in this thesis.

Valid point made by Bitner et al. (2002, 102) relates to the lack of service recovery systems in SSTs. Only way to remedy technical malfunctions offered by most of the companies operating SSTs in case of glitches is to contact provider by some other means. Service recovery can be regarded as an extremely important part of the whole service process. As pointed out by Meuter et al. (2000, 59-60) appropriate service recovery is regarded as highly satisfying by customers, but bad or no service recovery at all is in turn highly unsatisfying. It has effect on factors such as customer satisfaction, loyalty, word of mouth communications and bottom-line performance. Poorly functioning service recovery process also has a clear effect on repurchasing. Customers who complain and have their complaints poorly resolved are much less likely to buy again, than those customers who though unhappy with service did not complain (Zeithaml et al. 2009, 214).

Implementation of web tools in one way or another also poses potential problems. These are discussed by Schultze and Orlikowski (2004) and Bhappu and Schultze (2006). Researching inter-firm relationships on a personal level, they found out several problems that use of a self-service technology can pose for organizations. It is argued that perceived disadvantages relate closely to the relationship between parties becoming more distant and formal. However, authors such as Selnes and Hansen (2001) suggest that solution is not to be afraid of self-service technology but to embrace it as an additional help to personalized service.

Schultze and Orlikowski (2004) use two terms: social embeddedness (introduced by Granovetter, 1985) and social capital (introduced by Coleman 1988) which are essentially linked to their research problem. Social embeddedness relates to the fact that all interactions take place in a social context. Social capital in turn is generated in embedded relationship and represents itself as intangibles such as trust or goodwill. This can ultimately lead to increase in human or financial capital.

These two terms form a basis of which Schultze and Orlikowski paper revolves around. They introduce four different changes which they regard as major relating to work practices when organizations introduce self-service technologies. These are information overload, lack of opportunities for sales representatives to affect the sales, reduction in the amount of social interactions between representatives of different parties and finally use of personal relationships (i.e. social capital in this context) just to get customers using online quoting tool.

These are interesting points regarding how self-service technologies affect personal relationships. Gaining a good understanding of each of the four issues will enable suppliers to modify their processes in order to avert or at least lessen the impact of these concerns. Schultze and Orlikowski argue that use of a self-service technology makes relationships more distant and impersonal. For example, tasks such as quoting can transform into a very tedious undertaking without much participation and personal input from sales representatives except in latter stages of sales process. This is something that leads directly to their key disagreement with Selnes & Hansen (2001) who do not regard increase in use of SSTs and decrease in personal interactions as necessarily a negative occurrence if changes in relationship dynamics are implemented correctly.

According to Selnes and Hansen (2001) in low-complexity relationships adoption of SSTs can have a negative effect on the relationship. In high-complexity relationships, however, a self-service technology will have a positive effect on customer relationship. In this context low-complexity refers to relationships where customer-supplier interaction is solely based on performing operative tasks. High-complexity relationship refers to bonds where both operative and consultative tasks have to be performed in order to maintain the relationship.

In high-complexity relationships, all the complex situations will be solved through personal interactions and routine tasks will be left to be dealt with through electronic channels. This is something that Schultze and Orlikowski disagree about. They argue that adoption of a self-service technology will nevertheless result in fever personal interactions and inevitably result in degradation of the interpersonal relationship (Schultze & Orlikowski 2004, 105).

Bhappu and Schultze (2006), in turn, argue that the biggest factor prohibiting prospective users of adopting self-service technologies is perceived relational losses that self-service technologies might inflict upon implementation between a supplier and a customer. According to their research there are two different dimensions relational and operational that factor strongly into customers decision-making regarding use of self-service technologies. What they found out was that higher the frequency of purchase interactions, more likely negative perceptions from customers' side regarding implementation of Ecommerce tools. As

stated before this is weighted against operational benefits that relate to savings in costs and time. Findings of their study indicate that when put against each other operational advantages are regarded more important than relational disadvantages. Also, what is significant is that study was conducted solely with B2B customers.

Issues discussed in this chapter have direct consequences regarding this thesis. As pointed out earlier, the value co-creation requires interaction between a supplier and a customer. Only through genuine interaction can a supplier present a customer with effective value propositions and learn more about customers' value creation processes. This enables suppliers to be able to modify accordingly their own general and customer specific processes and stay ahead of competitors. Customer perceives value alone based on both physical and emotional value propositions which form the basis of the service experience. This subjective nature leads into realization that in order to fulfill customers' expectations and create value for them digital interfaces must be well-designed and easy to use. Only this way they can be implemented and used willingly by customers resulting in the creation of value-in-use.

If interactions between customers and suppliers are made too distant, there is a real possibility that competitive advantage that has been created is lost. Although there are differing opinions how much self-service can have negative or positive impact, one thing where everybody seems to be in agreement of is that personal and social interaction must always be included in the continuing business relationship. When we involve the value-in-use in this context once more, then only logical conclusion is that organizations involving self-service technologies have to be able to communicate with customers with other ways as well, not just through digital interfaces. This way it is ensured that constant ability for effective interaction between organizations is maintained and conditions for making value propositions remain.

2.5 Service design

Service design is a relatively new approach for innovating and developing new services and improving existing ones. It is integrative, multi-disciplinary and iterative concept that adopts holistic view in the development process. With the help of service design, organizations are able to better understand both latent needs and those subjects are aware of. Organizations can then utilize these needs in the context of both external and internal operating environment of a company and its vision and subsequently develop services that correspond to these needs.

Service Design process contains all the necessary steps that are needed in order to develop intangible idea into something that corresponds to characteristics of a service. Over the

times, many different processes and frameworks have been proposed for service design model. According to both Moritz (2005) and Stickdorn & Schneider (2010) these typically share common features of research, idea development, selection of ideas and implementation (Moritz, 2005, 120). In this thesis, two models will be discussed. One model has been presented by Moritz (2005) and other by Stickdorn & Schneider (2010).

Service Design Process Model presented by Moritz (2005) is based on different tasks that have to be undertaken in order to come up with viable service capable of value creation. Moritz's model is based on researching and analyzing previous models and frameworks suggested by other authors. This along with discussions with other service design professionals has helped Moritz to create his own process model.

Moritz uses term task overview when discussing his model. On a practical level, it contains six different tasks that are designed to give a holistic understanding of the service design process and help users in service design. When creating his model Moritz investigated previous suggestions of service design. By analyzing them, he was able to come up with his own suggestions.

Models Moritz acquainted himself with included one suggested by Birgit Mager and containing nine segments covering analysis, innovation, strategy, special development, testing, environment analysis and client typology. According to Moritz (2005, 116) this model gives compact overview of service design process. It is generic, and linkage and iteration between different stages have not been described. Therefore, it is also not self-explanatory or easy to understand. For this reason, Moritz regards it as too much directed to insiders of industry and not necessary useful for someone with less experience.

Other model explored is one used by Ideo in service design process. It is composed of three key segments, which are 1.) observing and understanding people, business and technology. 2.) Principle of iteration where maturing ideas and prototypes are transformed into final concept. In the final segment final concept is translated and implemented into services, products and spaces. According to Moritz it is useful in understanding different tasks in service design process. However, Moritz found it to be very specific for Ideo itself and designed for their specific needs.

Last two models discussed by Moritz are one suggested by a committee appointed to create Service Design process for British Standards and one developed by Spirit of Creation. Former is divided into four stages which are 1.) develop a business 2.) design and develop a service 3.) deliver and support a service and 4.) operate and optimize potential. Spirit of Creation's model is centered on so-called DGSE (Discovery, Generation, Synthesis and Enterprise)

process. Generic process in DGSE is surrounded by other elements that individual services would have.

As a general overview of different Service Design processes presented above shows in a general level these models have four stages or steps that can be in some form found from all of the frameworks. These are research, idea development, selection of ideas and implementation. What is missing from some of the models is strategic thinking and planning. This is an area where Moritz criticizes existing models and which according to him is what makes the difference between service innovation and service design.

Moritz sees service design as a holistic concept that should be dominating the whole existence of organization and to some extent organization's clients. Moritz argues that service design corresponding to his model helps to give organizational strategy a new meaning with a better understanding of customers, technologies, market and overall environment where organization is operating. It goes beyond just setting out strategic plans with certain tasks to be undertaken by some members of the organization, by including every team and division in an all-encompassing change that will affect everything and everybody in a company.

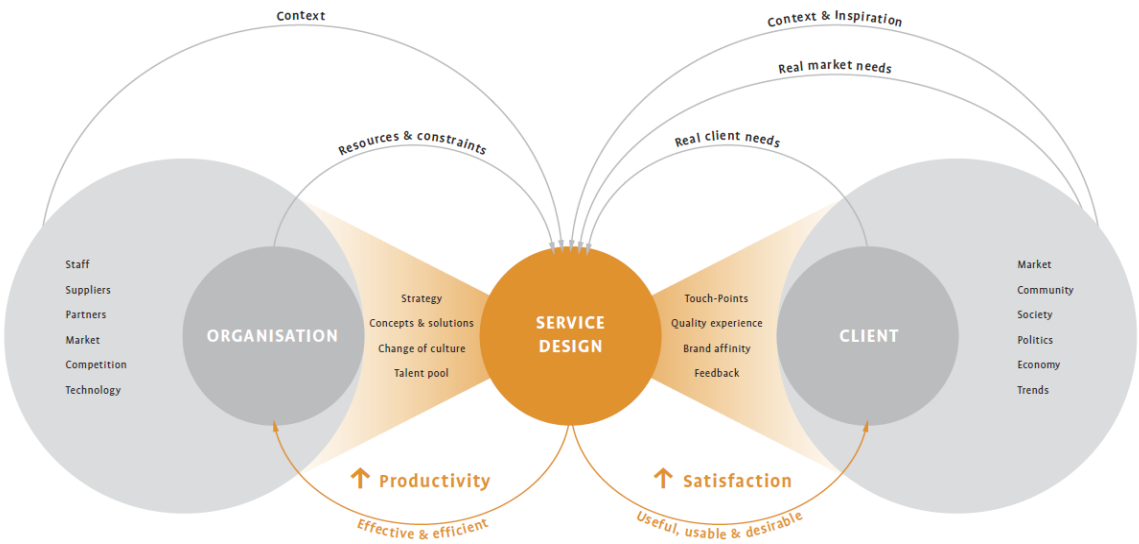


Figure 4: Service design overview by Moritz (2005, 153)

In Moritz's model Service Design works as an interface between the organization and its clients by creating meaningful touchpoints between a customer and a supplier. It helps to integrate people from clients and providers to be part of the same entity, which is capable of producing relevant services efficiently for both parties and the same time creating brand

affinity. The key is organization's capability to understand customers' needs in the context of environment where customer is operating, and being able to respond to this with capabilities that the organization has developed with adoption of Moritz's Service Design Model. Diagram of Moritz's Service Design Overview model is shown above.

Service design process as presented by Moritz.

Moritz's Design process is based on six distinct steps. He emphasizes the non-linear nature of his model where iteration is an important part of the process. In this model main thing is to be able to develop ideas into concrete, useful services which are linked into organizations strategy and operating environment. It is vital to understand the processual nature of Service Design Process. Services keep on evolving and to that end so must an organization be able to direct resources also into services that have been introduced to the market. In Moritz's model, each step is presented with its own recommended research methods. Below is a diagram which shows these steps and their iterative nature of how they might be linked into each other.

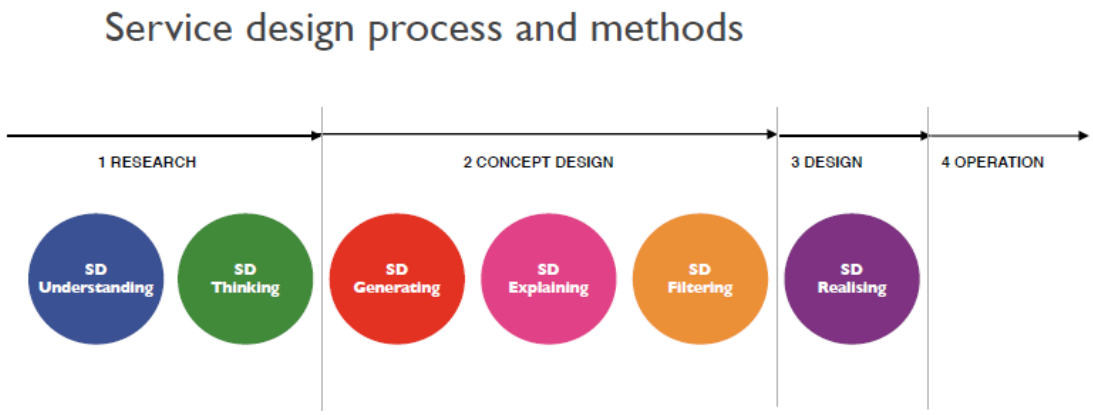


Figure 5: Different service design tasks (Moritz 2005)

SD Understanding is about understanding the context where an organization is operating, and ability to perceive organization's needs both latent and conscious in this context. This is the starting point for Service Design Process as Moritz sees it.

SD Thinking is the strategy part of the process. It is based on information gathered during SD Understanding. In this step it will be decided what of the information gathered will be used during next steps and which direction the Service Design process will take. Moritz (2005, 128) emphasizes the need to get the senior management involved because their intake is needed in order to ensure that project is relevant in the larger context of organizations' needs and marketing environment.

SD Generating is about creating concepts. These concepts should be based on relevant information and strategic direction. However, a strong emphasis has to be put on concepts being innovative and original. In this phase the service is starting to take a shape and not just ideas being developed, everything behind them such as processes that create the service will start to form. Ideas begin slowly turning into an actual offering.

Moritz describes SD Explaining as “discussion platform” (2005, 140). With Explaining different stakeholders should be able to gain a better understanding of service and its different aspects such as processes and business logic behind it. This can be achieved through different sketches and visualization techniques which can vary from simple blueprints or process drawings to beta launches.

In SD Filtering step best ideas are chosen for further development. This sorting has to be made against criteria that are measurable. Also, preferably experts of different fields could be involved in the process. Filtering is also linked with Thinking for it has to follow strategies established in it, and as in Thinking step key decision makers should be involved in this part of the process.

SD Realizing is the part where abstract concepts eventually turn into proper services and are introduced into the market. In this phase, the basic concept is clear. This is about implementation, when training and making manuals and business plans takes place. It is important to understand that after Realizing step has been completed it is not the end of the development for a service. As Moritz puts it, it is “the new beginning” (2005, 144). From now on challenge will be to adapt service in a constantly evolving market.

Service design process as presented by Stickdorn & Schneider

Stickdorn & Schneider see Service Design as a user-centered approach where all the different stakeholders must be involved from the start. They emphasize its holistic nature which should take into account every factor that has an influence on the organization. According to Stickdorn & Schneider service design principles also include sequencing and evidencing. These relate to need to create an effective narrative that guides customers through service experience with the help of various touchpoints and need for some physical evidence of services used. Overall Stickdorn and Schneider have adopted a narrower view than Moritz, and their emphasis is more a processual approach to service design.

Like Moritz, Stickdorn & Schneider approach emphasizes iterative non-linear approach. It is divided into four different phases, which in general follow similar kind of phasing as Moritz’s model. Model also offers a range of tools that are recommended to be used in different

phases. Like Moritz, their model according to authors is not manual-like but more of a set of opportunities that service designers can use according to how they see fit. The four stages are Exploration, Creation, Reflection and Implementation.

In the first stage Exploration, it is important to get a holistic picture of the company that is providing services. This includes creating understanding of the company culture and possible reasons and problems behind the need for Service Design professional. Stickdorn & Schneider (2010, 128) argue that one of the key areas at this stage is to understand the situation from the perspective of customers. This includes employing ethnographic methods in order to gain a real understanding of organization's situation and conscious and latent needs of customers. Also within this stage understanding has to be formed about internal processes of existing services and merge these all into one entity.

Creation is the concept phase of Stickdorn & Schneider Model. Emphasis is on creating inter-disciplinary teams that consist of all the different stakeholders of Service Design process. Only this way can co-creation be achieved. Testing of ideas and concepts is done in this phase.

Reflection is the prototype phase in Stickdorn & Schneider model. Most of the iteration in this model happens between Creation and Reflection when various concepts are proposed for prototyping and send back and forth in order to develop them into more and more delivery-ready, tangible services. Challenge is the prototyping itself. How to test an intangible service in a way that the basic nature of proposed new service is understood and test-audience are able to give feedback regarding it.

In the Implementation phase, Stickdorn & Schneider quote Cameron and Green (2010, 134) when linking change management and its three basic tenets planning change, implementing change and reviewing change into introducing new or evolved service. Both customers and organization personnel are considered vital in this fourth and final phase. Implementation should be based on tried and tested prototype where employees have been involved from the beginning. Problems should be expected and dealt efficiently. Implementation should only happen with the approval of management and enough resources allocated to it. Review of new or evolved service should start almost immediately again setting in motion the whole process from beginning.

Comparison between two models and conclusions

Two models presented before share some common characteristics but also differ significantly in some areas from each other. In both models process starts from the research phase where

groundwork for successful latter stages is done. Target is to create a holistic picture of the operating environment. This includes company, existing offering, client(s), market etc... Basically it includes everything that can affect the outcome in some shape.

After research has been conducted, both models suggest that the next step is to start develop ideas and create concepts that can slowly be turned into prototypes. Iteration is something that both models strongly suggest is necessary for successful Service Design process outcome. In every phase, different aspects can arise and dealing with them might make it necessary for taking a step back and starting particular phase all over again.

Finally, a new service is ready to be introduced into the market. This means making manuals and business plans and training necessary people to perform tasks that are vital for a new or evolved service to succeed. Both models also do not regard service launch as end for a Service Design process. On the contrary, it only marks beginning of a new phase where development will be based on feedback received from real life use.

In the general level both models advocate inter-disciplinary teams that include participants from as many different stakeholder groups as possible. Both models also advocate involvement of management in order to gain their approval either in the beginning of the Service Design process where ideas are starting to mature into more concrete concepts (Moritz 2005) or in the service launch phase (Stickdorn & Schneider 2010).

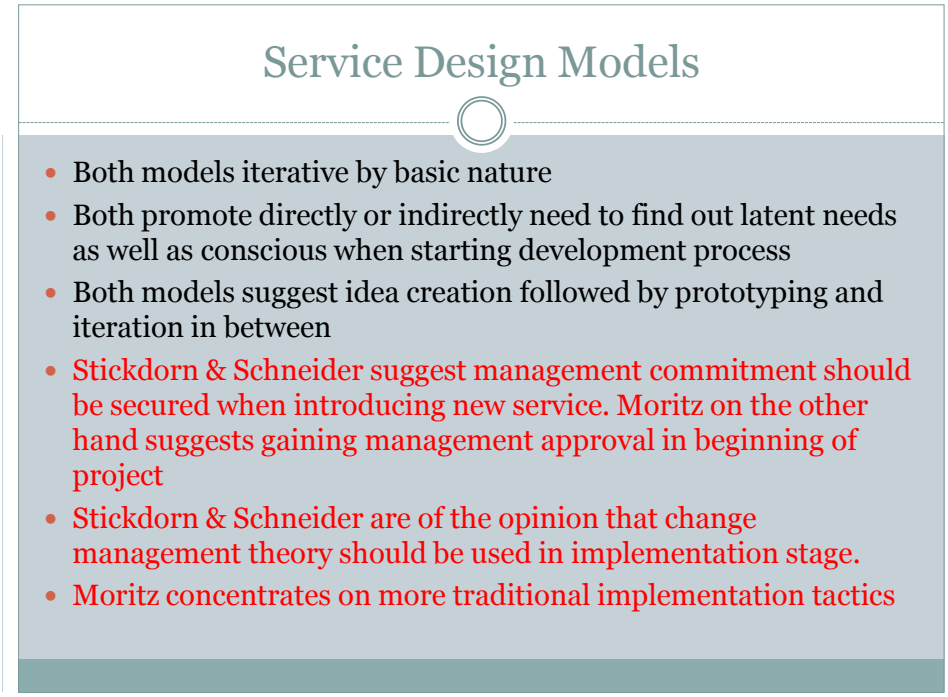


Figure 6: Similarities and differences between models

There are differences between both models. Some issues are entirely left out of other model and in some cases models have conflicting approach into some aspect of the process. In Stickdorn & Schneider model for example, in the implementation phase focus is on change management and getting management involved in the process. In Moritz model management involvement is seen vital in the earlier phase in the beginning of the process.

Also what is significant is that, in the beginning of the design process, Moritz's emphasis is strongly on latent organizational needs. While both models emphasize in early phases the need to find out the overall situation of the business environment where organization is operating the focus differs between both models. Stickdorn & Schneider are of the opinion that at this phase forming a clear idea of customers' perspective is very important. In the end, it can be argued however that differences between two models are mostly about emphasis. The foundations are very similar in both models.

2.6 Ethnography

Ethnography as a research method has its origin in anthropology. Basic idea was that researchers when studying indigenous people should not influence them with their own ideas and prejudices. They should instead adopt local culture and mainly do research by examining study subjects by immersing themselves completely with them.

Modern ethnographic research is not only participatory by nature but also involves interaction, conversation and co-creation (Stickdorn & Schneider 2010). Creswell (2003, 199-200) describes the purpose of ethnographic research as "to obtain a holistic picture of the subject of study with emphasis on portraying the everyday experiences of individuals by observing and interviewing them".

Ethnography is at its most effective when a new market segment needs to be understood or when innovative ideas are required. Ethnography helps to understand modern market and its evolving and constantly changing dynamics (Mariampolski 2006). Ethnography aims for a comprehensive view of the research problem with the help of research done in the context of all the factors influencing the problem. Value for research is created by proximity of researcher and subject which aims to remove all the barriers that might otherwise affect the validity of the research.

3 Operating environment – Context of the research

Author will discuss the eco-system where case company is operating. The current status and also the possible future challenges and opportunities will be discussed in detail. This overview

will include Finnish telecom market introduction as well as the case company introduction from the group level all the way down to the sales team level. The author has used extensively material collected from both public sources as, for example, publications of Finnish Telecommunications Authority and private sources. These private sources include usage statistics of TDC Service Online and other statistics regarding sales team figures which company regularly gathers in order to understand how use of the portal is developing.

The purpose of this section is to give a reader better understanding of how telecommunications sector is developing, and which are the ultimate reasons behind the increased use of self service technologies. It will be argued here that given the maturation of the sector, and increased commoditization of service offering cost leadership is essential in order for telecoms to survive in the current market place.

3.1 Telecommunications industry in Finland

Finnish Communications Authority defines Finnish telecom sector as comprising of organizations providing voice and data transfer services in both fixed and mobile networks as well as TV and radio transmission services. Services can be offered in both wholesale and retail market. Companies included in definition may also be involved in other business activities not connected to above mentioned services (Ficora 2012, 4).

Finnish telecommunications industry is characterized by being dominated by three large operators; Teliasonera, Elisa and DNA. There is also number of regional operators (Finnet-Group) and other companies competing from customers. Put together 10 largest operators create about 90 % of total revenue (Ficora 2012). Half of industry's revenue is created from mobile services. Rest comes mainly from fixed network services with minority coming from TV and radio operations.

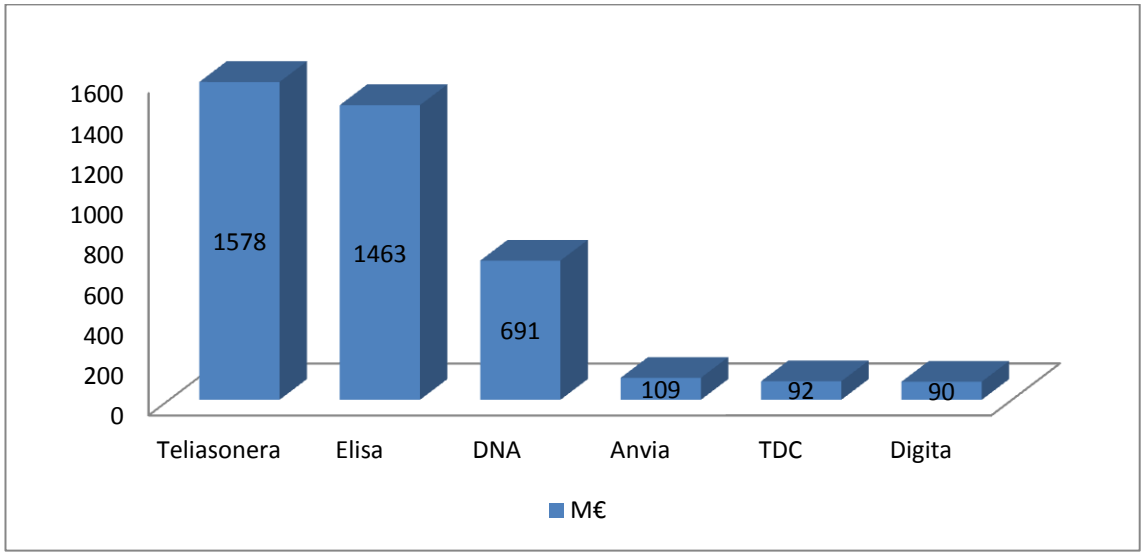


Table 1: Revenue comparison. Five biggest operators in Finland by revenue in 2010

Teliasonera, Elisa and DNA are the only three operators with their own mobile networks in Finland. Other operators offer mobile connections to their customers by buying network capacity from one of these three and selling it to end customers under their own brands. However it is worth noting that from the total number of end user mobile connections in Finland, the three biggest operators have 98 % (Ficora 2012).

This same is true with fixed network services. Fixed network means copper and fiber infrastructure built and owned by telecoms and used to transmit data and voice. With both of these sectors biggest three dominate but, their market share is not as big as with mobile services. It is about 75 % from the total revenue. Many regional operators around Finland and other companies offering telecoms services have their own networks at least on geographical areas they originate from. Operators with their own fixed networks also sell capacity to other operators to be further sold to their end customers (Ficora 2012).

The rest of the revenue stream is created by offering television and radio services and "other" services not regarded as being part of the traditional selection of services that companies in the telecommunication industry have sold to their customers. Television and Radio services refer to such services as IPTV, cable-channels and capacity from antenna network. These activities create less than 10 % of total revenue although with the increase in broadband bandwidths these are expected to become more common in the near future (Ficora 2011, 25). "Other" services relate to equipment sales and other ICT services such as consulting (Ficora 2012).

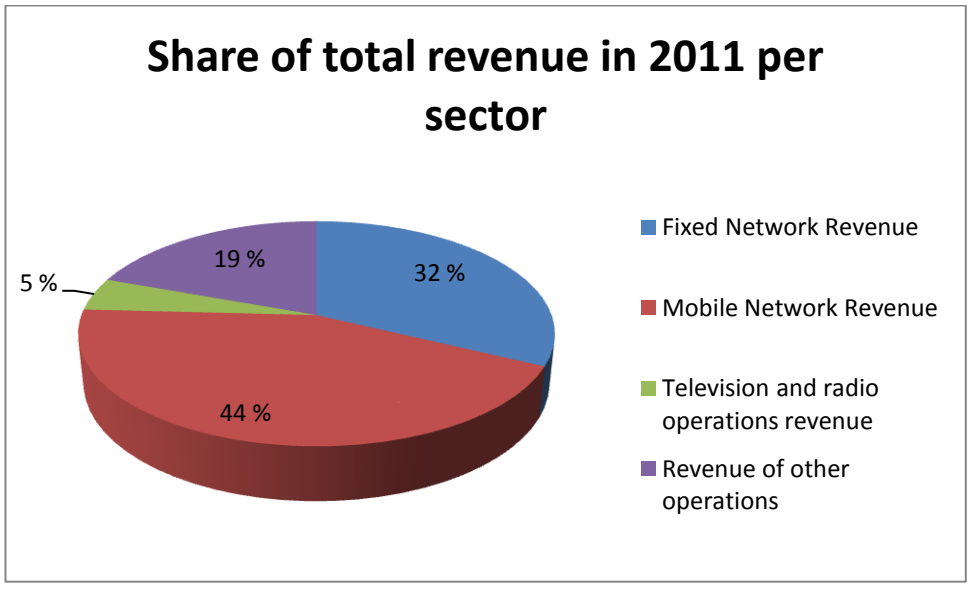


Table 2: Revenue share per sector

In year 2011, the total revenue created by the telecom industry was 4,88 billion €. From this total 880 million € was created by wholesale business. Wholesale business is defined by Ficora as “offering services to other operators which are further offered to end customers” (Ficora 7, 2012). As mentioned earlier operators who do not have their own capacity whether fixed or mobile must buy it from other operators (Ficora 2012). This is the essence of wholesale business and creates the basis for case organization’s revenue creation logic.

Finnish Communications Regulatory Authority (Ficora) has published a review investigating the near future developments that can be expected to happen in Finnish telecom sector. Review has been done with the help of several methods used in Future research and classified according to PESTE-analysis. PESTE is an abbreviation for political, economical, social, technological and ecological and it is commonly used when analyzing possible changes in future operating environment (Meristö, Molarius, Leppimäki, Laitinen, and Tuohimaa 2007, 6)

This review predicts that in near future telecom sector will experience significant consolidation with the number of companies decreasing considerably (Ficora 2011, 7). Bigger operators will buy the smaller ones or the smaller ones will merge. Also, strategies will vary from bigger operators which offer wide ranging services to smaller organizations concentrating on certain niches. Through common market and harmonization of European telecommunication regulation, it is expected that multinational telecommunication companies will increasingly start entering smaller regional markets such as Finland. This can mean more “traditional” operators but also content providers and social media companies like Google and Facebook.

Finnish society will become even more and more digitalized with basic public services being moved into internet with the hope of savings. Companies will increasingly start to offer existing services via internet. Broadband will be regarded as basic commodity which everyone regardless of place or time is entitled to with reasonable price. This together with technological development, which significantly decreases costs and hardening competition, will lead to trend of falling prices (Ficora 2011).

Consolidation and technological development will put significant pressure on operators to develop processes which enable them to offer services with sustainable pricing structure. This means utilizing technology not just in delivery and maintenance phase of telecom services lifecycle but quoting and sales as well. Only in this way sufficient dynamics and cost structure can be maintained enabling operators to stay competitive.

3.2 Case company – TDC Oy Finland

Case Company TDC Oy Finland is the author's current employer. TDC is operating in telecommunications sector targeting other businesses and government organizations. TDC Oy Finland does not currently possess consumer offering. Company's turnover in 2011 was 93 million € making it one of the ten biggest telecom companies in Finland (Asiakastieto 2012). TDC is part of TDC group headquartered in Denmark and has subsidiaries in Finland, Sweden and Norway. Group total turnover in 2011 was 3, 5 billion € (TDC 2012).

Author works in company's wholesale sales team. This team deals with other telecommunications companies both domestic and international. Business is based on selling both data and voice services over fixed and mobile network to other operators who themselves do not have own network coverage in some area. Network coverage refers to own fixed or mobile infrastructure. Mobile infrastructure is based on base stations offering mobile coverage over certain areas while fixed refers to operator being able to offer service in their own fiber or copper based network meaning that the operator has fiber or copper lines to locations other operators are wishing to offer services to end customers.

If a company does not have the coverage, it must buy bandwidth from the other operator who can offer it or some other desired services. Usually operators buy very basic broadband connection consisting of certain bandwidth and afterwards proceed to build their own more sophisticated services on top of that. Wholesale's offering is concentrated almost exclusively on fixed network services.

This has lead to a situation where most of wholesale revenue is brought by services which can be characterized as commodities therefore, also meaning slim profit margins (Ficora 2011). Customer base consists mostly of Finnish regional operators, system integrators and international operators.

Currently team has eight working members with one absentee on maternity leave. Organization is very flat consisting of Director, three Key Account Managers and five Business Managers. Difference between Key Account Manager and Business manager is that while former is tasked with creating new revenue i.e. finding new customers and taking care of larger sales cases with existing customers, business managers are responsible for managing existing revenue streams, taking care of routine cases and developing systems.

This team is tasked with creating additional sales well over five million euro per year. Existing revenue from ongoing contracts is well over 30 % of whole TDC Oy Finland's revenue. Sales

interactions can vary from few hundred euros to several hundred thousand euros per transaction. In 2011 wholesale completed over 900 sales transactions.

3.3 TDC Service Online – TSO

TDC Service Online is TDC Oy Finland's online portal designed to function as an interface between customer and TDC. Organizational target is to involve TSO in every stage of telecom service lifecycle (see lifecycle figure on page 53). This means that customers should be able to do offer requests and orders through TSO. They should also be able to make fault tickets, review their existing services and documentation regarding these services, check invoices and contact different personnel at TDC in order to receive help and consultation with various issues that might rise during the course of customer relationship with TDC Oy Finland.

TDC first introduced the customer interface in 2000. It was named Extranet when working title was adopted as the official name for online portal. Many attributes such as fault tickets, statistics, documentation and contact information now part of modern setup could already be found from the original portal. Name was changed into TSO in 2004. Currently TSO is in use in all the TDC countries (Finland, Norway, Denmark and Sweden), and it has been adopted as a central part of TDC strategy in the near future. Group has devised a strategy how to motivate and enable employees to be proactive in use of TSO. This strategy involves measuring their performance against TSO and using this as a way to measure bonuses. TSO is also planned to take a more central role in all big tenders and all new customers are to be immediately introduced to use of TSO.

TSO usage is growing all the time. In June 2012, there were 6822 individual visits in Finland compared to 4943 from preceding year. In wholesale sales team during the first half of 2012 sales created through TSO totaled 21% of total sales during the period from January to end of June. During the same period, year before measured with the same formula ratio was 18 %. In Finland ratio for a number of customers with activated TDC Service Online account is 42% (September 2012). There is a growth of 20 % during this year alone. Table below shows total TSO sales since portal was activated to be used in ordering. 2012 figure contains data from January until the end of September.

Table 3: TSO sales growth

TSO Roadmap (2011) sets out organizations expectations and vision regarding online tool. According to it TSO is multichannel tool which:

- documents the common journey
- monitoring and reporting tools are available all the time
- tracks goals and promises
- proactive problem prevention
- speed
- facts for decision making and communication
- controls easily even complex services
- required information is always available
- chat with our experts anytime
- makes you smart

Currently TSO development is done in so-called sprints. One sprint takes about six weeks. First two weeks are for planning, second two for development and last two for testing. If everything is fine then developments are released for production. Two sprints can overlap. Development is based on change requests (CRs) that anybody in the organization can make. Usually they are done by super users, which TSO organization has named from every major part of TDC Oy Finland organization. First requests are discussed and prioritized in local prioritization forum. From there, they are moved into Nordic level prioritization forum were final sorting of CRs is done. TDC Finland has one full time concept manager working solely on TSO and Userservices (TSO portal for TDC's mobile offering). His job it is also to coordinate

bigger development projects that are characterized by demanding over 100 hours of development.

Scrum as this chosen development method is called is based on so called Agile Development. Agile development furthermore is based on Agile Manifesto that was introduced in 2001. Agile development methods are best suited to projects of relative simplicity and need for rapid change (Heeager 2012, 4). According to Agile Manifesto agile development focuses on working software, change customer needs and individuals, as opposed to documentation, contracts and rigid following of a plan (Agile Manifesto 2012).

eXtreme Programming and Scrum are the most well known agile development methods. Scrum focuses on efficient management of projects. Sprints mentioned above are a vital part of scrum method as are sprint reviews, daily scrum meetings and sprint planning meeting/days which are all used in order to plan and display the project in question. The roles that can be found from scrum are scrum master, product owner and scrum team. Master is responsible from the whole practice product owner refers to a customer, and scrum team consists of people self-organizing into project teams (Heeager 2012, 4-5).

1	Our highest priority is to satisfy customer through early and continuous delivery of valuable software
2	Business people and developers must work together daily throughout the project
3	Welcome changing requirements, even late in the development
4	Deliver software frequently
5	Working software is the primary measure of progress
6	Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done
7	The best architectures, requirements, and designs emerge from self organizing teams.
8	The most efficient and effective method of conveying information to and within a development team is a face-to-face conversation
9	Agile processes promote sustainable development
10	Continuous attention to technical excellence and good design enhances agility
11	Simplicity is essential
12	Project teams evaluate their effectiveness at regular intervals and adjust their behaviour accordingly.

Table 4: Agile Development principles (Agile Manifesto 2012)

Agile development has faced criticism based on its perceived lack of focus on end users. It has been argued that using functional software as a measure of success and business people and developers working together moves the focus away from the most important thing which is the end user benefits (Gualtieri 2011). Certainly it can be argued that if development is not

organized correctly there is a great danger of this becoming reality. If so called “business people” are from the supplier organization without throughout knowledge of end customers and their processes it can be argued that Scrum will lose much of its validity as a development tool. Also, “working software” as a definition is very vague. If authors have meant that it works in a technical sense i.e. clicking button will produce desired action then again, we are in a danger of losing sight of the ultimate goal. Working software should be referring to software that is able to support customer processes and be integrated into them.

TSO offers contact points for customers throughout the whole lifecycle of service. These contact points are offered solely through internet. TSO is not an application but web-based portal. Customers have their own accounts which can be used to access TSO. Access rights can be limited or unrestricted depending on how customer wants to configure them based on their corporate policies and other interests. TSO is designed to give customers access into TDC’s own systems. All the data made available by TSO is taken from company’s own ERP and CRM systems meaning that both customer and supplier see the same information. TSO does not have its own data stored on dedicated servers.

As set out by TSO roadmap document it aspires to be “customers’ preferred point of contact throughout the value chain” (2011). Currently customers can use it for making offer requests and orders. They can follow delivery with the help of TSO and be in contact with delivery manager. They can make fault tickets regarding problems with their services. They can check invoices online and see cash flow to TDC’s direction measured with multiple of factors. They can review the inventory of their services and they can compare statistics of them. As mentioned by several members of TSO management team, the goal in the future is to make TDC and TDC’s services transparent to customers hence enhancing trust and loyalty between parties. In interviews, it was compared to net banking. Comparisons were also made how goal is to make TSO as easy and, self evident part of customers life as net banking currently is in Finland.

In order to counter diminishing profit margins, TDC has an ambition to widen and deepen the use of TSO to include all parts of conventional telecom service lifecycle. This way costs can be kept down and resources channeled more actively. To actually achieve these aims requires that the company is able to develop a digital channel fitting in to the context of co-creation. It is designed in a way that makes it useful for customers creating them additional value thus achieving growing usage levels. This increasing utilization, in turn, is what creates more value to TDC, enabling redirection of resources and potential cost savings. At the moment, there are challenges in both research and application of TDC Service Online development in a way that facilitates co-creation between customer and supplier. The goal should be for the organization to be able to offer a portal that can be integrated into customer processes, thus

ensuring constant ability to present effective value propositions. These are issues that this thesis aims to rectify with the help of the framework aimed at producing guidelines that will make TSO a part of Value co-creation processes.

If this objective is to be achieved it will have a drastic effect on way people work at TDC in general and wholesale sales team in particular. At the moment, working methods at the team make Key Account Managers and Business Managers, depending on customer, involved in every part of the service lifecycle. This can be lead from some of the central characteristics of wholesale business. If business-to-business can be described as having fewer customers with more expertise and large transactions (Kotler 2003, 216-217), then in wholesale business the number of customers is even fewer and their expertise even better. With the correct application of TSO, it is hoped team members can concentrate on sales and some of the tasks will be automated, and others directed to correct members and teams of organization.

4 Thesis purpose statement

As has been shown in the literature review improving delivery channels for service offering is an important way of creating value for both a customer and a supplier. Well designed electronic delivery channel incurs savings enhances process flow and increases revenue among other things. Ecommerce tools when implanted in the correct way, generate customer loyalty leading to better retention rates. This all however, requires investing resources in development of such tools. All starts from understanding customers and their way of doing things. This enables supplier to make value propositions in the direction of customer through integration in customers' value creation processes.

Value propositions are linked to organizations' ability to understand customer processes. Therefore, it is vital that interaction between a supplier and a customer will never be through one electronic channel only. Supplying organization must also use its resources to gain purposeful understanding of key value creation processes customers are using. This is difficult to achieve solely through electronic channels, though questions remain how much Ecommerce, can actually support these activities.

Ability to understand customer processes also means better opportunities for creating links between customer and supplier processes. As stated before when electronic tools are linked together through electronic interfaces it provides added incentive for continuation of customer relationship. Change of supplier will also mean that new interfaces between different CRM/ERP tools must be developed. This will prove a competitive advantage for current supplier.

Value propositions are intrinsically linked to customers' value creation processes and how value is determined. Basic tenet is the value-in-use when value is only created through usage. This also provides key target for this thesis. What is developed cannot be merely a theoretical solution, but one which provides its importance to all stakeholders through use.

All this in the end comes together to create a context inside which this thesis is constructed. It will be the author's goal to create a proposal for TDC's wholesale sales team which will improve the functionality of the portal so that it corresponds better to the requirements of the sales team. This will be achieved through researching employees' and customers' latent needs by using ethnographic methods. Subsequently proposals will be made how to improve TDC Service Online and its surrounding processes in order to make it better to correspond to customers' needs. Improvement does not mean focusing on details concerning for example colors of a particular section but takes more comprehensive approach to the research problem. Author strives to achieve a solution that covers company's and team's strategy thus making result more as a framework giving guidance than an extensive list of different suggestions.

Thus, the purpose of this thesis is to explain how technology advances services selling and helps to realize more value to case organization and its customers through co-creation in the context of TDC Wholesale sales team and all factors affecting its operations. It is the core principle of the co-creation that both parties benefit from successful implementation of this thesis conclusions. In other words, this Thesis will create a framework for which TDC Oy Finland's wholesale sales team and other organizations can base their self service technology implementation. As a case study, TDC's own electronic portal and its implementation will be used.

5 Research - methods and subjects

Chosen research methods are connected to service design processes suggested by Moritz (2005) and Stickdorn & Schneider (2011). Different methods have been used in different phases of the project. Author started with interviews of the management group members. This was then followed by focus group interviews with customers. Last phase was workshops with front office sales personnel. It was the author's goal to follow the different phases of design processes as set out by above mentioned authors. This was, however, limited by practical considerations regarding customer timetables and locations of their offices, which meant that only one day could be effectively used for research part per customer. The advantage of using different research methods and subjects was that it increased the validity of study by virtue of information being gathered from several sources with the help of several

methods. This is also called triangulation (Mariampolski 9, 2006). Triangulation will be discussed in more detail later in this chapter.

Both customer and management group interviews can be regarded as being part of Stickdorn & Schneider's first phase exploration and focus groups also the second phase creation (2010, 128-131). Similarly, they are part of Moritz's first and second phase i.e. SD Understanding and SD Thinking (2005, 127). These phases relate to gaining a better understanding of the current situation and its positives and negatives. Also, visions for the future should be under discussion here. In an ideal situation, customers would have been subjected to several research methods spanning different process phases. However, as mentioned before due to demands of daily business this proved to be impossible to achieve.

Workshops and exercises undertaken with front-line sales personnel served both Stickdorn & Schneider's second and third phase (reflection) and Moritz's third and fourth stage SD Generating and SD Filtering (2005, 133-139). This is about developing ideas and starting to filter best out of them. It is also the phase were first prototypes should be developed and tested. Within the context of this thesis prototype corresponds to affinity walls which include many suggestions of how operating environment where sales personnel have to work could be improved. Affinity wall also displays negatives and positives relating to the current situation.

Raw data gathered with the help of different research tools was analyzed based on finding common themes and narratives from material. All the material gathered was analyzed in a same way in order to find above mentioned recurring themes and narratives and subsequently compared with existing theory. Based on this body of material conclusive interpretations were made.

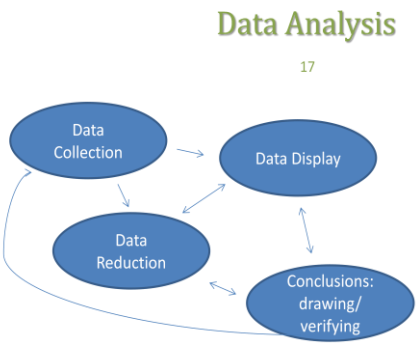


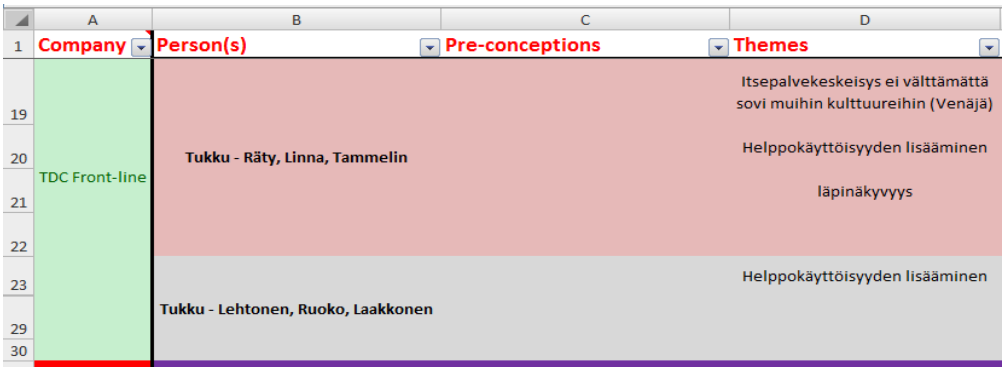
Figure 7: Data analysis (Hair, Wolfinbarger Celsi, Money, Samouel and Page (283, 2011)

Analysis was done using the framework developed by Miles and Huberman (1994) and further refined by Hair et al. (2011) to be used with data validation methods. Framework includes four steps. Unlike in quantitative research where the analysis is done in a chronological order analyzing qualitative data is an iterative process. The data collection and analysis can be done simultaneously based on emerging themes and development of research focus.

Data reduction (Hair et al. 2011, 282-283) refers to reducing the amount of data so that it is more easily manageable and understandable. Only data relevant for research should be saved. This requires choices of what should be emphasized, what minimized and what left out. However, researcher must continuously look for new meanings and relationships. In this thesis reduction meant transcribing interviews from a tape recorder onto paper and giving codes to themes and patterns found from this material. It also meant converting both brainwriting sheets and affinity walls into a more understandable form onto paper and again giving numerical values for common themes and patterns found from material.

Data display (Hair et al. 2011, 283) is about organizing remaining data so that it is in a form that is conducive for making interpretations and finding themes and patterns relevant for solving the research problem. The display may be in the form of a chart with arrows describing the relationships between issues or table where common themes and patterns are coded with numerical values. Finally, researcher must draw and verify conclusions (Hair et al. 2011, 286-287) based on material that has been collected. This final phase is about ensuring that conclusions reached are logical and believable. They are supported by collected data. Researcher should not be looking for a single explanation for research problem but the most likely amongst several possible explanations.

In this thesis, author put found themes on excel table where they were displayed in a simplified text form as shown below in an example. In this form, it was easy for the author to use excel functions such as filtering and sorting in order to display data in a more relevant form. These were then looked into in order to find the most meaningful explanations based on existing theory.



	A	B	C	D
1	Company	Person(s)	Pre-conceptions	Themes
19	TDC Front-line	Tukku - Räty, Linna, Tammelin		Itsepalvekeskeisys ei välttämättä sovi muihin kulttuureihin (Venäjä)
20				Helppokäyttöisyyden lisääminen
21				läpinäkyvyys
22				
23		Tukku - Lehtonen, Ruoko, Laakkonen		Helppokäyttöisyyden lisääminen
29				
30				

Figure 8: Data themes and patterns matrix

Credibility of this research was achieved by triangulation method (Hair et al. 2011, 287-289). Literature recognizes four different triangulation techniques three of which were used in this thesis. These are data triangulation, which means collecting data from several sources during a certain period of time. Method triangulation refers to using several methods when collecting data. Last implemented triangulation technique was theory triangulation. It is about using several theories and perspectives in order to explain collected data. The fourth method not used in this thesis is researcher triangulation. This involves using several researchers in interpretation and verification of collected data.

This thesis in its totality touches upon Stickdorn & Schneider's fourth and final phase Implementation (2010, 134-135) as well as Moritz's fifth and sixth stages SD Explaining and SD Realising (2005, 140-147). These phases relate to the final development of service processes and communication of the changes and their effects to the relevant stakeholders. Implementation, constant review and evolution of existent services are out of scope of this thesis.

Process wise this thesis research has been structured based on both aforementioned authors' design processes. However, there are limitations. This thesis is a framework. It is suggested that author's employer should implement recommendations in wholesale sales team in order to improve its value creating capability. It cannot be guaranteed which or if any recommendations will be acted upon. If some of them or in the best case scenario all are introduced this still means that as mentioned before evolution of this framework will have to be subject of follow up studies, developments and service design processes.

Research subjects can be divided into three groups. Both employees and customers have been used as research subjects in order to fulfill service design (Moritz 2005, 59, 167) requirement of thorough integration of all stakeholders in to the design process.

Overall strategy in mind author decided to interview two members of TDC management team and sales director of wholesale (subsequently promoted to management team as well). Objective was to gain an idea of how TSO was regarded and what was their vision for the future. This group of research subjects does not come into contact with TSO in their daily activities but managed at the time of interview the two most prominent parts of organization if measured with TSO usage and also participated and continue to do so in Nordic level working groups tasked with development of CRM, ERP and SST technologies to correspond to TDC needs. Therefore, it was considered as a vital by the author to gain their opinion of all issues related to TSO.

Members of TDC management team were interviewed individually, and interviews were recorded and then consequently transliterated on paper. The goal of these interviews was to get an overall picture of how management level employees who do not work in front-line using TSO regard the interface and what are their visions, positives and negatives concerning it. Also, customers based on Helsinki Metropolitan area were interviewed with this technique. Interviews were done using responsive interview technique described by Rubin and Rubin (2012) in their book Qualitative Interviewing. In this model focus is on finding context and conducting them in a manner that is non-confrontational towards the research subject. Their opinions and ideas impact the interview in a real-time manner (Rubin & Rubin 28-29, 2012). Interviews are constructed using three different forms of questions: Main questions, follow-ups and probes. Main questions provide the context for the interview and usually there are not that many of them in a one interview. Probes are used to manage the conversation and also for clarification and interpretation purposes (Rubin & Rubin 28-29, 2012, 132-147). The role of follow up questions is to challenge the interviewee, clarify contradictions and understand different phases of processes (Rubin & Rubin 150, 2012).

The author used this method in order to gain a better insight into research subjects' latent needs and visions. Questions were not prepared in advance. Author only had a framework of main issues that needed to get clarified in the course of an interview. Based on this framework issues were discussed and interesting themes and relationships which came up where followed up with a more in depth questions and probes. As mentioned before both customer and management group interviews can be regarded as being part of Stickdorn & Schneider's first phase exploration and focus groups also the second phase creation (2010, 128-131). Similarly, they are part of Moritz's first and second phase i.e. SD Understanding and SD Thinking (2005, 127). This makes it logical to use interviews as a method to gain a better understanding of organizations and industry's current situation and vision for the future as well.

Some customer representatives were also researched using interviews. Resource constraints were a main reason why author was forced to concentrate on existing high level users of TSO with a high number of weekly transactions. Several different groups of users with responsibility of different phases of service lifecycle were interviewed in order to gain as thorough cross-section of customers' needs as possible. Author was also able to discuss the situation with managers of one customer and get a management perspective of their needs.

Other customer employees were interviewed in focus groups. Groups were formed based on customers' job description thus creating one group from order handling, other from delivery and provisioning and third from middle-level managers. Interview technique used with focus

groups was the same responsive interview model as with the TDC management and individual customers. Author feels that interviews were maybe not the most viable tool in researching customers, especially front end users who use interface daily. However, time and place constraints made more extensive workshops impossible. Individuals and focus groups were interviewed once in a person, and additional questions were sent using email if some issues rose that needed clarification. In an ideal situation at least some front end users would have been subjected to same techniques as TDC front line sales personnel. This would have been done in order to supplement interview data and get a better understanding of practical ideas and prototypes for possible enhancement of TDC Service Online.

Second group researched by author with the help of affinity walls and brainwriting exercise were authors' closest colleagues in wholesale team. Some of these subjects manage the most active customers when measured in terms of TSO usage. Others do not have a single customer using TSO. Also, knowledge regarding interface capabilities varied from excellent to nonexistent. In terms of research, this was an interesting situation which became evident during the actual research workshops. Those with less knowledge of TSO were the ones with more far-reaching and innovative ideas. Those with more experience of working with customers and participating in development of TSO thought more "inside-the-box".

Front office sales people participated in workshops, which were recorded and consisted of two different tasks. These workshops lasted for two hours. First one was the affinity wall. Participants were made to write anything that came up on post-it stickers. These stickers were then compiled in relevant groups on a piece of paper on the wall. In order to get the process started paper had telecom service lifecycle based on the author's view on it.

Figure 9: Affinity wall after a workshop

Other exercise that the front office sales people were subjected to was brainwriting where every member of the group had to write few ideas not specified in any way to a paper. Participants had limited amount of time to achieve this. After time ran out, papers were passed to the next person whose task it was to continue develop ideas written by the first person. This was repeated five times. As with customers, supplementary data was collected by email during data analysis when new themes and patterns emerged.

Both these methods were chosen because they are related to Stickdorn & Schneider's second and third phase (creation and reflection) and Moritz's third and fourth stage SD Generating and SD Filtering (2005, 133-139). They generate ideas and give a possibility for prototyping when ideas are discussed in workshops and matured by other participants during these occasions.

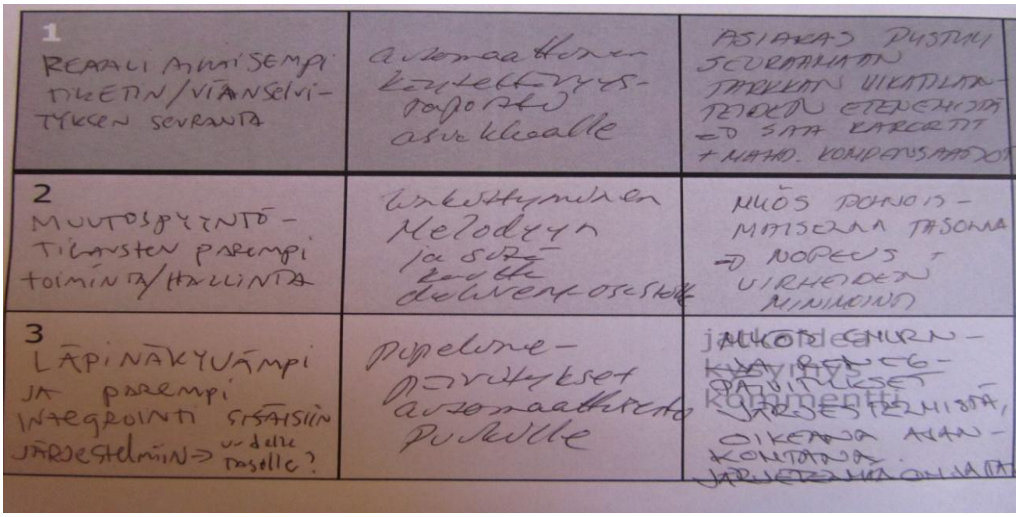


Figure 10: Brainwriting sheet

Workshops provided to be stimulating experiences for participants. New ideas and insights were formed during these occasions. Team members gained new perspectives about something they thought they already understood well. The most surprising aspect of workshops was that the group that consisted of personnel not well acquainted with TSO, was able to offer author more relevant and unconventional ideas than the team with experienced TSO users in it. What useful was gained in terms of this thesis during empirical research is presented in the next chapter.

6 Results

During the literature review, author has discussed several perspectives and issues seen important by different authors on the field of self-service technologies in the business-to-business environment. It has been the aim, to use this information as a foundation that the author has been able to exploit when researching the case organization regarding value-

creation with the help of Ecommerce and different tools it offers for organisations. The literature review also presented the basics of contemporary service marketing theory because it must be seen as the basis for all that follows later on.

In the course of the research phase, author was able to collect material that in part has confirmed existing research as valid due to same issues being raised by participants. Some issues have been seen as more important than others. Also, intriguingly one of the central tenets of existing theory received not a single mention from research subjects or support from available statistics. Clearly as might be expected emphasis was on different issues (although overlapping at times) with different research focus groups. What follows has been incorporated from the literature review and research data collected by the author.

6.1 Theoretical Implications

Research reinforced much of the theory discussed in the theoretical framework section. Developing meaningful digital interface between customer and supplier requires understanding of processes that the interface is meant to support. Only this way, continuous value creation for all the parties involved can be guaranteed. To achieve this, interface and processes connected into it must take into account diverse customer segments and their differing needs depending on customers' particular ecosystems. They must also consider different stages of service life-cycle and macro and micro-level operating environment. Ease of use achieved by continuous user training, manuals and customization possibilities are things that can be employed in order to make TSO more desirable for new and existing customers.

This way customers can be committed into users of the Ecommerce tool that also essentially transfers workload from the supplier's side into customer side. Providing customers online with needed high-quality information regarding all aspects of customer relationship, and giving them ability to effortlessly provide supplier with important information is vital. This information exchange that can be used to solve problems or speed up processes, can be regarded as one way to ensure the continuous motivation to use interface.

Research has also enforced author's hypothesis that digital tools such as TSO must always be used and developed in the context of larger operating environment. This also means that development must focus on the interface with a wider perspective, and not just the interface, but all the processes and stakeholders connected into it. In the end, the overall goal must be the value creation for case organization. Means to do this are not important. Value created with the help of digital interface is no more or less valid than with the help of some other method or tool. Next results are discussed in more detailed level.

The most important conclusion that can be drawn based on existing theory and subsequent research conducted by the author is the importance of implementing self-service technology as a part of organizations strategy and routine processes. In practice, this means that everybody working in a front-office position must understand the possibilities and the restrictions as well as positive and negative implications of use of SSTs. Employees must also understand the focus organization is putting into making digital channel as a focal point of service delivery and its importance in the overall strategy aimed at service leadership (TDC 2012)

Justification for this can be drawn directly from central tenets of service dominant logic and co-creation (Vargo & Lusch 2004; Vargo et al. 2008; Ojasalo 2010 and Grönroos & Ravald 2009). According to theory, value creation for all parties requires intimate knowledge of each other's processes. This results in a capability to offer valid value propositions which translate into value for both a supplier and a customer. They key is for a supplier to maintain an active role as facilitator in value creation.

In practice, this manifests itself as the importance of all employees who are in direct contact with customers being able to understand and utilize SSTs in a way that creates value for them and their customers whether it is savings in time, money or some other way. This is also true when discussing best ways to develop self-service technologies. Different departments have differing needs. The best way to develop digital interfaces with customers is to utilize people who have the best knowledge of certain areas of expertise. This way the creation and maintenance of practical and credible system which above all produces value can be guaranteed.

Situation where employees from different departments get increasingly involved with TSO and its development leads to what was first defined by Senge, Kleine, Roberts and Ross (1994) as a learning organization. In a learning organization employees in different surroundings continuously learn new things and direct their new capabilities into development of their work environment through different media such as TSO. The basic tenet of a learning organization is that an organization will be able to transform itself continuously through workforce highly educated and continuing to re-educate, learn and assimilate new things all the time. This, some authors argue is the only source of the competitive advantage that can be regarded as permanent (Zahay & Handfield 2004). It is also worth noting that in learning organization majority of learning takes place incidentally.

Although out of scope of this thesis, the author believes that organizations should never create too rigid strategies. It is acceptable to set out targets based on desired revenue

streams, profit margins and such. However, how to achieve those goals should be left open. Situations in modern business environment change so rapidly that it is very difficult and in many cases futile to follow certain strategy for a period of time. With highly skilled and motivated workforce organizations like TDC can ensure that capabilities, motivation dynamics and mobility are there to outmaneuver competition. If TDC can ensure that people working with TSO are up to the task it will have a competitive advantage. This does not merely mean dedicated TSO developers but also everybody working in the front office role and being involved in interactions with customers. As suggested above, TSO should be integrated into regular activities of different departments and adopted by everybody working with customers. This way it can be ensured that development of TSO is strongly influenced by needs and wants of customers in different parts of service lifecycle and by employees thoroughly acquainted with TDC internal processes.

Lifecycle management was seen as important by management level employees of the case company. This means getting SSTs utilized in every part of the service lifecycle starting from offer request until maintenance phase and possible renegotiation process. Basic lifecycle for telecommunications service can be seen below.

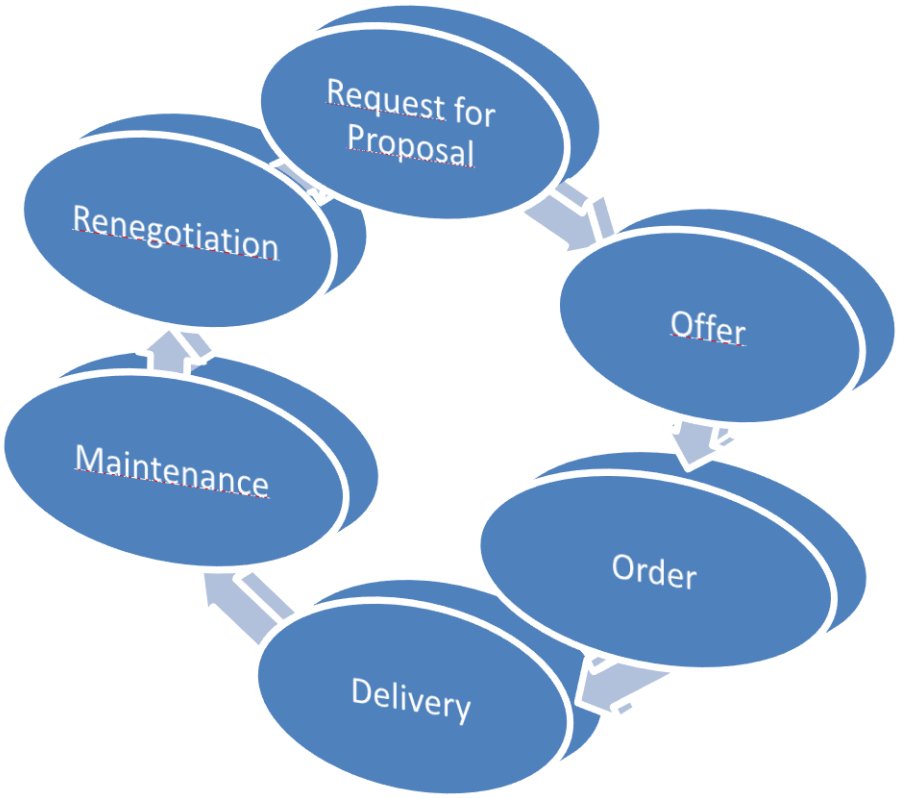


Figure 11: Lifecycle of Telecom Service

This would enable more savings and possibly quicker response times to customer problems. It would also lead to what directors termed as “DHL-effect” where transparency of TDC services

would correspond, with long-existing and industry standard capability, to track items via websites of different courier companies such as Fedex and DHL. This is something that existing theory seems to support. As mentioned earlier, Lawson-Body and O'Keefe suggest that relationship between cooperation and loyalty can be promoted by more information (2006). This should in turn result in loyalty replacing common history as a foundation in inter-company relationships.

Introduction and implementation of the self-service technology was considered as both a possibility and a threat by operational front office staff at TDC. Possibilities referred to value created by freeing more time to what was seen as "important tasks" away from the routine handling of offer requests, which was regarded as something that is not vital part of the job. Improvements suggested by operational front office staff very much related to the increase of automation, ease of use and better quality and quantity of available information. These all if achieved would see the time allocation of Wholesale Key Account Managers and Business Managers shift into the direction of more macro-level tasks instead of micro level.

At the same time, these possible developments, however, were also seen as a potential threat. There was a definite fear that automation would transform sales personnel jobs consisting of mere pricing and answering enquiries. This was regarded as removing much of the prestige currently associated with a sales job.

Same subject was also discussed by the management. Their concern was that increased use of digital channel would replace human interaction from the sales process, leading to somewhat sterilised inter-organizational relationships and unfavourable effect on gross sales.

Theory suggests that solution is to embrace SSTs even more thoroughly as an additional help for overall customer service (Selnes & Hansen 2001). Key is to make implementation correctly with the focus being on preserving relationship dynamics. This is especially true in high-complexity relationships where interaction between companies consists of both operational and consultative tasks. Selnes and Hansen advocate directing routine tasks into digital channels while more complex issues should still be solved face to face. It must be noted that, for example, Schultze & Orlikowski (2004) and Bhappu & Schultze (2006) disagree with this and see implementation of SSTs inevitably leading into degradation in interpersonal relationships.

Interesting point was that not a single front-office or managerial level representative of customers raised this issue. Whether it was due to lack of an internal discussion regarding the subject or just confidence that this would not have any effect for the eventual goal of inter-organizational cooperation value, was not established.

Implementation of CRM-features into a customer portal was seen as important by both TDC management team members and customers. This was regarded by management as a way to commit customers into using TSO and also to retain them. Small and medium sized companies are regarded by TDC as often having inferior or somewhat lacking CRM systems, which makes, for example, sales forecasting difficult. Offering of CRM features and organizational knowhow was seen by study subjects as a way to increase aforementioned commitment and retention.

This same issue was also raised in the interview by a group of mid-level managers from one of the TDC's bigger customer. Features seen as vital were linked to development of pricing and metrics related to industry standard service level (initial reaction time, repair time, delivery time). It was seen as important to be able to gather these metrics to be used in interactions with a supplier.

Implementing CRM features also has more far reaching consequences. If added this will fundamentally change the nature of TSO. According to Zeithaml et al. (2009) technology defines services in multiple of ways. At the moment, TSO offers a new channel for delivery of existing services. CRM features could turn this more into a service in its own right capable of creating revenue and profit independently. This requires that strategic decision to offer some features for charge is made.

What features could create value for both sides? In Wholesale business customers deal with end customers whose buying decisions are also critical for first level supplier (TDC Wholesale). It is regarded as important that the customer is aware of their current sales pipeline. This means what revenue is expected to be realized during a period of time and with what profit margin from the end customers. Also, important is to be aware of contractual situation with already existing end customers, and when fixed contract periods are about to end so negotiations regarding extensions can be initiated in due course. Performance data regarding existing connections should be, and in some extent already is available so customers can offer bigger bandwidths and thus create more revenue.

Currently from customers' point of view one irritant has been the complete lack of automation between TSO and their own systems, meaning in some cases double amount of work. The issue of lack of interfaces between TSO and customers ERPs and CRMs has been identified as important to be developed by TDC management.

Creation of these interfaces takes time and money. When developed in an ideal way; however, these interfaces enhance the interaction between both sides thus creating different kinds of benefits. This also means that a customer is more reluctant to swap a supplier for

fear that with a new partner interaction would not be so frictionless. Also, developing interfaces with a new supplier means need for more investment money- and time wise.

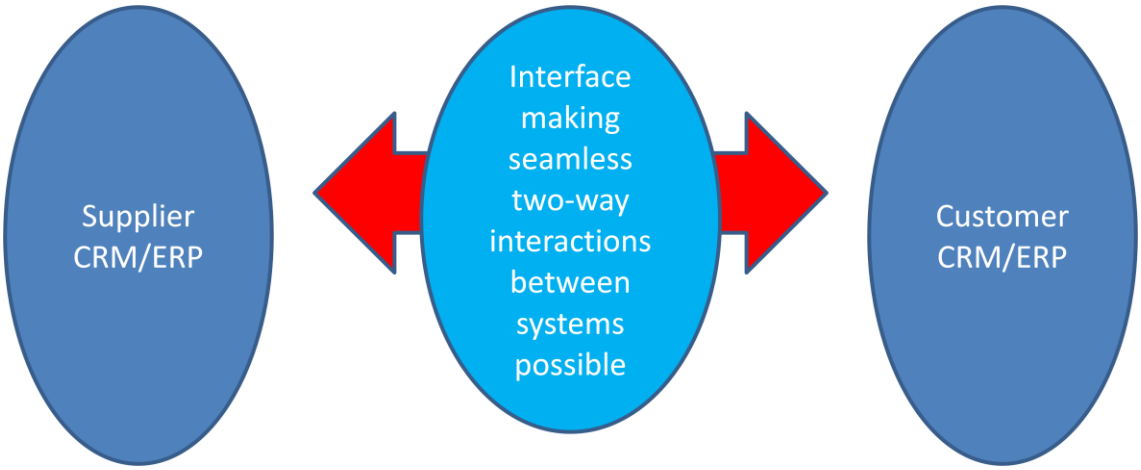


Figure 12: Interface between customer and supplier systems

This is also supported by the theory. Lawson-Body and O'Keefe (2006, 19) suggest that companies must pursue cost savings through the use of web tools. Initial investments in self-service technologies will be gained back relatively quickly through cost savings achieved by improvement in different vital processes (Bitner et al 2002; Currant et al. (2003).

One of the most intriguing findings was that the independence from time and place (Currant et al. 2003) was not seen important or even mentioned by any research subject. When this was specifically asked from the TDC management group level interviewee, subject stated that he did not believe it to matter in Finnish 08-16 society. This is also supported by very low usage levels of TSO mobile version. When in July 2012 there were over 3500 individual visits to TSO from Finnish users mobile version was only visited 71 times.

This is interesting and perhaps something that warrants more research. Research should concentrate on cultural and social dimensions connected to the meaning of time and place. How the introduction of self-service technology and the more prominent role they are taking in a modern business-to-business environment is changing people's personal lives? Also, role of marketing or the lack of it regarding mobile site should be investigated further in the case company. Furthermore is the meaning of time and place losing its importance in consumer interactions as opposed to business-to-business interactions?

Personalization or Customization was regarded as a possible advantage by wholesale front-line sales personnel. It has also been studied by the development organization, and even some proposals have been made. However, few have made it all the way into the production. Currently users can choose their starting page and language.

With TSO, some concerns expressed by users related to cultural differences between domestic and international customers. One comment was “TSO does not speak Russian”. Another opinion was that TSO was very impersonal. Personalization or customization, which was defined by Cöner (2003, 499) as a form of active involvement in modification of web content, could be used as a way to give customers options to alter the user interface. Different version or versions personalized for international market could be developed. This should be done only if getting international customers or majority of international customers to utilize TSO is regarded as important. In the latter situation, however, potential costs and benefits should be carefully considered before starting the possibly very costly development process. How to achieve this through development is discussed below. Payne et al. (2008) see differences between customers in their ability to adapt alternative processes. This could be rectified by improving how needs of individual segments are taken into consideration.

Organization must make a strategic decision how costs are allocated. Author suggest that this must always be deliberated based on existing revenue streams, and the potential a customer has and which can be realized with the help of the portal modified by customer preferences. With bigger customers, personalization can be included within the business case which encompasses the whole relationship with the customer. With smaller customers, however, when personalization is not meaningful based on the current status or future outlook, it is suggested that TDC will offer different levels of personalization based on customer needs with every package priced based on what is included. However, TSO can and must also be developed to include as many customization possibilities as possible; some of them automated and some defined by users.

It can be argued that current development process is a personalization exercise. It ultimately however does not correspond into basic tenets of the value creation. Personalization is done with high volume external and internal users in mind without much emphasis on latent needs or customer processes. It is further argued that, with the current model, ratio between costs and benefits is not ideal. More value could be achieved by integrating more front-line people with knowledge from certain lifecycle phases into the development. The emphasis should be on the integration of development ideas into more coherent entity with a certain logic encompassing the whole system. This would lead to a creation of easy-to-use and adapt tool which would create value for all the stakeholders.

As described before TSO development is done in sprints, where after selection appropriate CRs are chosen for production. CRs can be suggested by anyone but are usually written by TSO super users based on feedback from other users. This is then followed by a presentation of CRs for the group of super users who have a chance to comment during the live presentation.

If functionalities are approved as designed by developers, these are then tested by super users in demo environment, and if no problems are found then moved on to production i.e. live environment to be utilized by all stakeholders.

As is discussed in the preceding chapter, development can be regarded as a sort of personalization or customization exercise. Also as discussed in previous chapters TDC has two sales teams which have been positioned to deal with different customer segments. This naturally leads into a situation where needs and wants of the sales teams are not similarly aligned, and thus TSO development and available resources cannot always be made to accommodate both teams.

As a direct consequence of this, author suggests that TSO development is divided in two differing paths where one is dedicated for wholesale and other for direct sales. Paths converge in pertinent points during later stages of the development process, but in other stages they are separate in order to ensure the best possible outcome. This is lead directly from chapter above discussing personalization.

With wholesale, focus should be in ensuring fluid quoting and ordering process and feasibility for international especially Russian and far east market. Based on this, it is suggested that development on the first level should involve the whole team and be based on personal experiences from interaction with customers and opinions formed during daily work. It should be super users' responsibility to push these ideas into concrete proposals taken into development path. This organized regime should better take into account different experiences with customers and possible larger trends in wholesale business. It should be TSO dedicated personnel's (concept manager) task to coordinate change requests and ensure there are no conflicting interests or if there are they are negotiated together with stakeholders in order to ensure best possible outcome for the organization. Also with coordination same user logic could be maintained over the whole TSO thus improving the user experience.

As discussed in the literature review SSTs are characterized by lack of well defined service recovery processes. If technology fails only way in most situations, is to contact provider with some other means. This is also true with TSO. If the system fails when for example, entering order, customer choices are either to call or email sales personnel in order to get order into delivery. There is no "instant contact" button or any other feedback possibility directly related to failed functionalities. Currently TSO offers chat possibility with different contact points, but based on experience it is not used in these situations. Customers tend to contact sales personnel usually with email and ask for manual order forwarding. This again takes away from the basic idea behind self service technologies.

This presents a possibility for differentiation by reputation. By planning a recovery process for the system based problems, two benefits can be achieved. It increases customer satisfaction and therefore, does not turn people away from TSO usage. It also increases automation, and again allows sales personnel to concentrate on more important tasks that are central to metrics used to measure their performances.

Currently TSO is a digital delivery channel for existing services. Organization's common vision is to increase TSO usage and to get more customers interacting with TDC through it. This should make it obvious that the most relevant metrics is the utilization rate of TSO compared to overall use. In sales team, this means rate of sales coming through TSO when compared to overall sales of the team during a certain period. In wholesale business currently, TSO use is measured by certain "set-in-stone" sales figures per months. These figures do not take into account the overall sales and their development. TSO is not independent service creating revenue, but channel to be used in the delivery of services. If the organization is not able to get new customers, and retain existing ones it does not matter how excellent electronic customer interface is. TSO usage in sales team will always be intrinsically linked into sales team's most important function selling. Utilization rate could and should be measured per sales team, but also per individual sales person in order to review how personnel are implementing TSO strategy.

Same also is true for other parts of the organization. For example, Fault tickets via TSO compared to other channels should be measured against the total number of tickets per business line, customer and salesperson in order to gain a clearer picture of how different sales personnel and other front line employees have adopted TSO and implemented with their customers.

Situation changes if TSO as suggested will be transformed more into a service in its own right. This means introducing CRM functions, which can be offered to customers with or without a charge. In this situation, it is logical to set out revenue and profit targets per period.

7 Conclusions

Electronic interactions are the future in many relationships between a customer and a supplier both in the field of B2C and B2B. Their increased use is a direct consequence of supplier desire to lower costs, to improve the customer experience and to reach even wider potential customer segments. In this thesis author has researched the use of digital delivery channel in the context of Finnish telecom market and the wholesale sales team of one of the bigger Finnish operators. The aim has been to create a framework, which can be used as a

guideline how the sales team can integrate the digital portal in its routine activities as efficiently as possible. The portal must also be integrated into customers' processes. Only this way value is co-created for both a customer and a supplier.

The key for any supplier is to create a portal that supports the customer processes. This ensures its continued unforced use making the creation of the value-in-use possible. In order to achieve this, case organizations, account managers and business managers interacting daily with customers must be involved in the portal development. This is the only practical way to accommodate the customer processes in the development of digital interface. Involvement ensures continued ability to make valid value propositions through it, and furthermore establishes portal as a practical tool in fostering a successful customer relationship. Development is a joint process where different stakeholders across the field from both the customer and the supplier side must be actively involved. Challenge in sales team is how to combine the most vital function sales with supporting functions like development work. This requires good coordination and flexibility between dedicated development resources and those doing it alongside other duties.

Also, separate development processes based on business lines and their individual needs are suggested in order to better accommodate the different nature and requirements of business and wholesale customers. This makes it possible to offer better value propositions to customers based on their individual needs, and enables better possibilities to directly or indirectly influence the customer value creating processes.

Wholesale employees are not operating in a vacuum where sales interactions are the only consideration. Because of the nature of customer relationships, customers tend to contact sales personnel in matters not related in any way to sales. Therefore, it is also suggested that development strives to achieve consistent and all encompassing model which makes it preferable and also directs customers to contact the right personnel right from the beginning. This also requires considerable coordination from the development people and wide involvement to R&D across the organization.

The development of portal must strive to achieve purposefulness and ease of use. These attributes contribute into the service experience, which is of utmost importance in customers' subjective value creation process. This can be achieved by linking the interface into customers' systems in order to make use simpler, expedite process flows and render the switching of a supplier both more difficult and expensive. Ease-of use can also be achieved and unwillingness to use defeated by active marketing of a portal which consists of both promotional and instructional material. Also, careful consideration must be devoted for timeframe of developmental sprints. If every month users have to spend time learning

additional features or if they are not even aware of such features through inadequate information flow, the value created by such schedules must be questioned.

This thesis accepts that customers are not similar with varying needs and environments in which they operate. Therefore, the framework promotes the inclusion of both personalization and customization options to the portal based either on markets or importance of the individual customers.

Directly connected to suppliers' role as facilitators of value, is the conclusion that organizations should strive to evolve their customer interfaces from digital delivery channels into services. This permits more value creating possibilities for both the supplier and the customer. For example, a wholesale customer can expect both direct and indirect improvements in revenue streams by implementing CRM features to portals. Especially small and medium sized organizations face challenges with their sales forecasting, customer databases and potential new leads. Solution offered for this by a larger supplier whether free or chargeable, can lead to improvements in revenue in terms of customer buying more services to resell and also willing to pay for CRM solution. This is especially true in wholesale business where services and products are resold for end customers.

Digital interface is best implemented when it helps both a supplier and a customer. Sales personnel can concentrate more on demanding tasks when routine matters are handled through an electronic channel. Customers are not bound to email when most of needed information is readily available with the help of technology. The quality and accessibility of data are improved when it is all available in the same place and the same format for both a customer and a supplier. Interface offers information in all stages of service lifecycle empowering customers to utilize it in most of their interactions with a supplier. The use is not based on contractual obligations, but to the clear appreciation of benefits it offers for both individual users and organization as a whole. The evolution of the digital interface is ensured by the development which takes into account both internal and external stakeholders and actively involves especially the front line employees in the process.

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